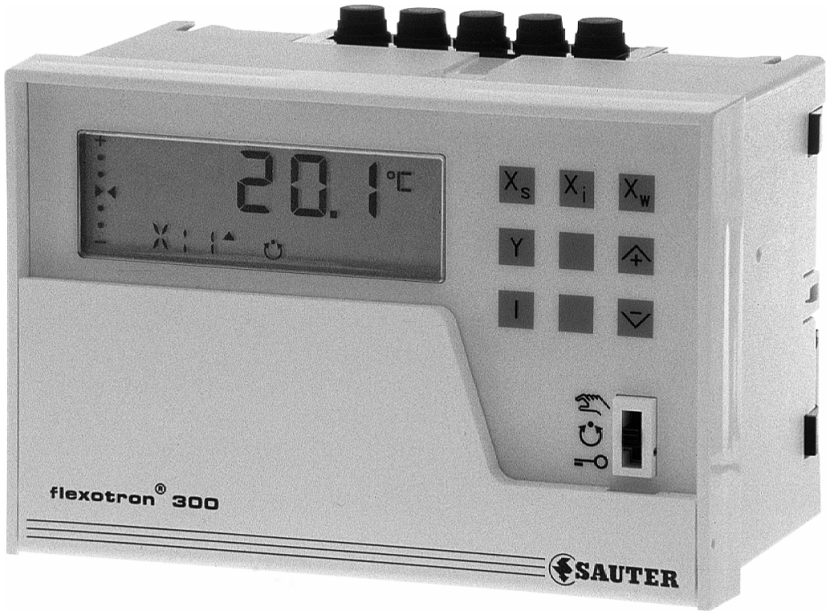


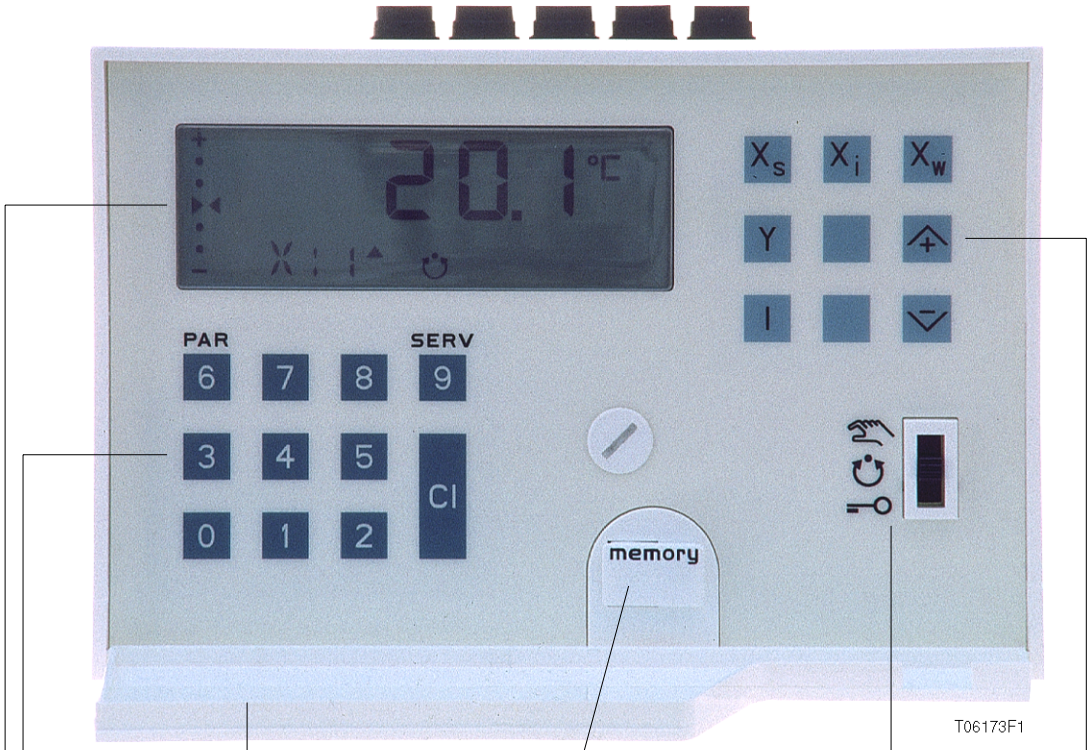
Controller for ventilation and air-conditioning

User's Manual, part 2
RDT 100 F001 / F002

7000836003 N2

Sauter Components

Front view of controller



Flap holds instructions **Memory (option)** **Mode switch**

- Manual mode
- Automatic
- Service level

Service and adjustment keys

- 0 . . . 9 Numerical keys
- PAR Control parameters
- SERV Service
- CI Clear

Information centre

User keys with function keys

- X_s Setpoint
- X_i Actual value
- X_w Control deviation
- Y Positioning signal
- I Input
- Forwards
- Backwards and minus sign

B06968

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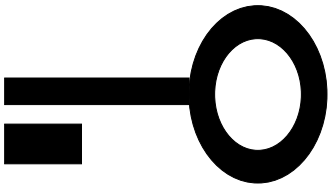
Service



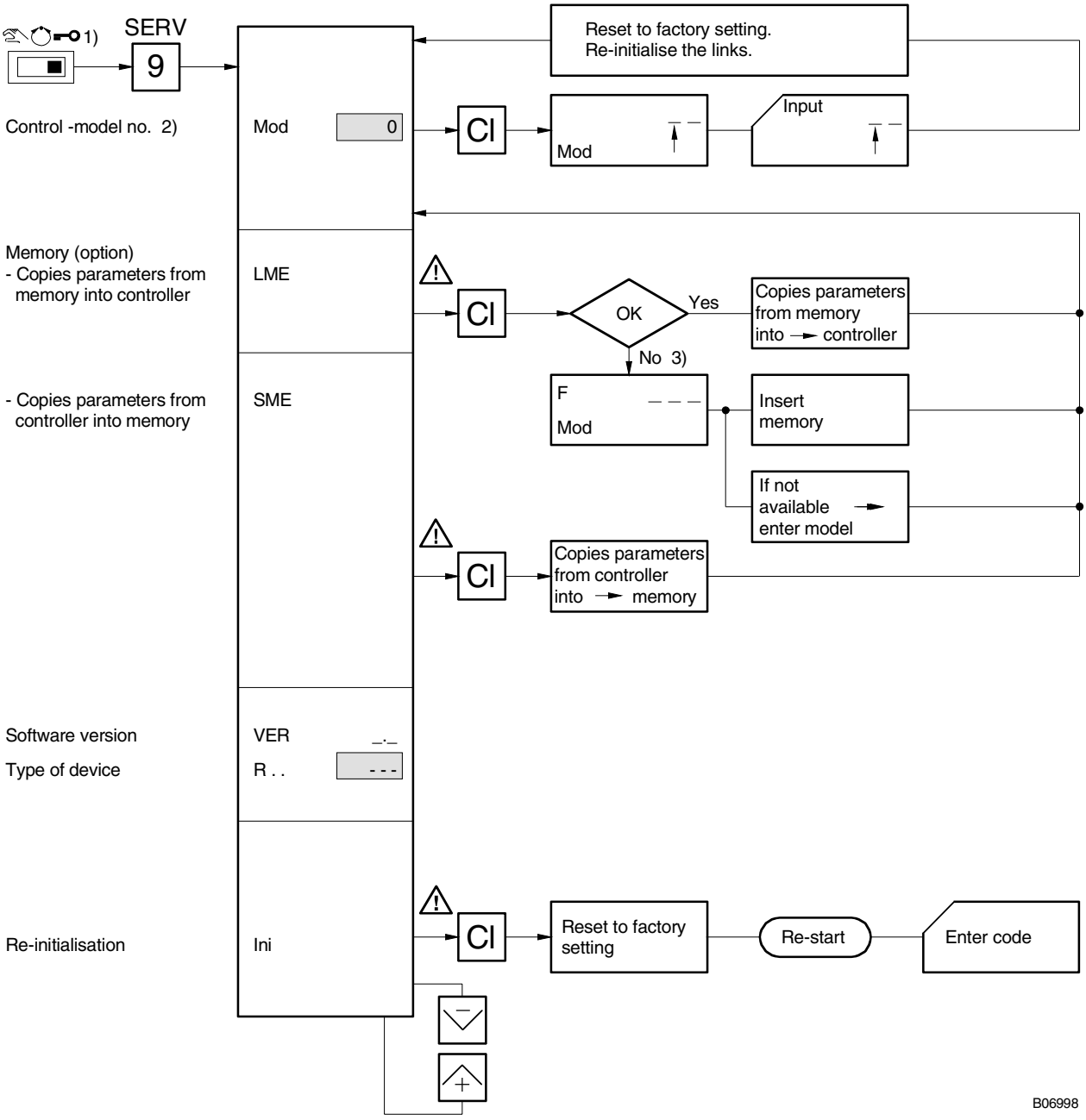
To gain access to the service level, you have to enter a password (code). It is 6-7-8-9, and cannot be changed.
Access to the service level can be prevented by sealing the mode switch.
In the service level, the controller is matched to the task in hand by making the following entries, amongst others:-

- Set the control model
- Configure and adjust the measured-value inputs
- Set the control action and the direction of operation
- Configure the control outputs

All entries and changes should be performed with great care. If a controller fails to work properly, the cause is often due to incorrect configuration, e.g. the wrong direction of operation or the wrong type of transmitter.

B	2/13/15/16
E	2-62

Choice of model; memory; equipment data; re-start

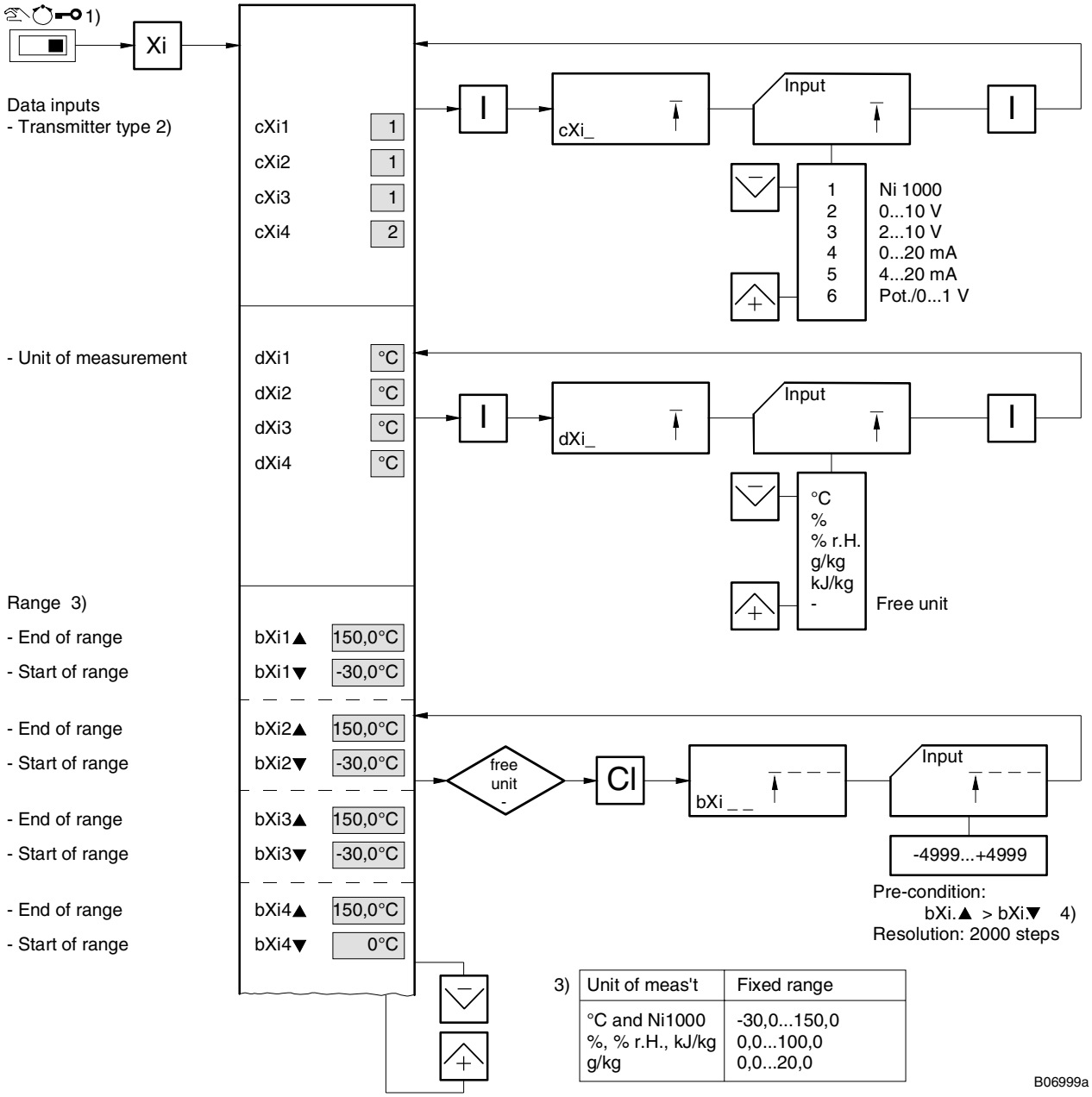


1) Enter code
2) **When changeing the control model, always perform 'In' function first!**
If entry is invalid, control model 0 used

3) An 'F' in the display stands for 'Fault'. This also appears when there is an internal memory fault after a reset, e.g. due to a power failure. The controller then uses the default values and control model 0.

B	2-11/12
E	2-62

How to parameterise the data inputs



3)

Unit of meas't	Fixed range
°C and Ni1000	-30,0...150,0
%, % r.H., kJ/kg	0,0...100,0
g/kg	0,0...20,0

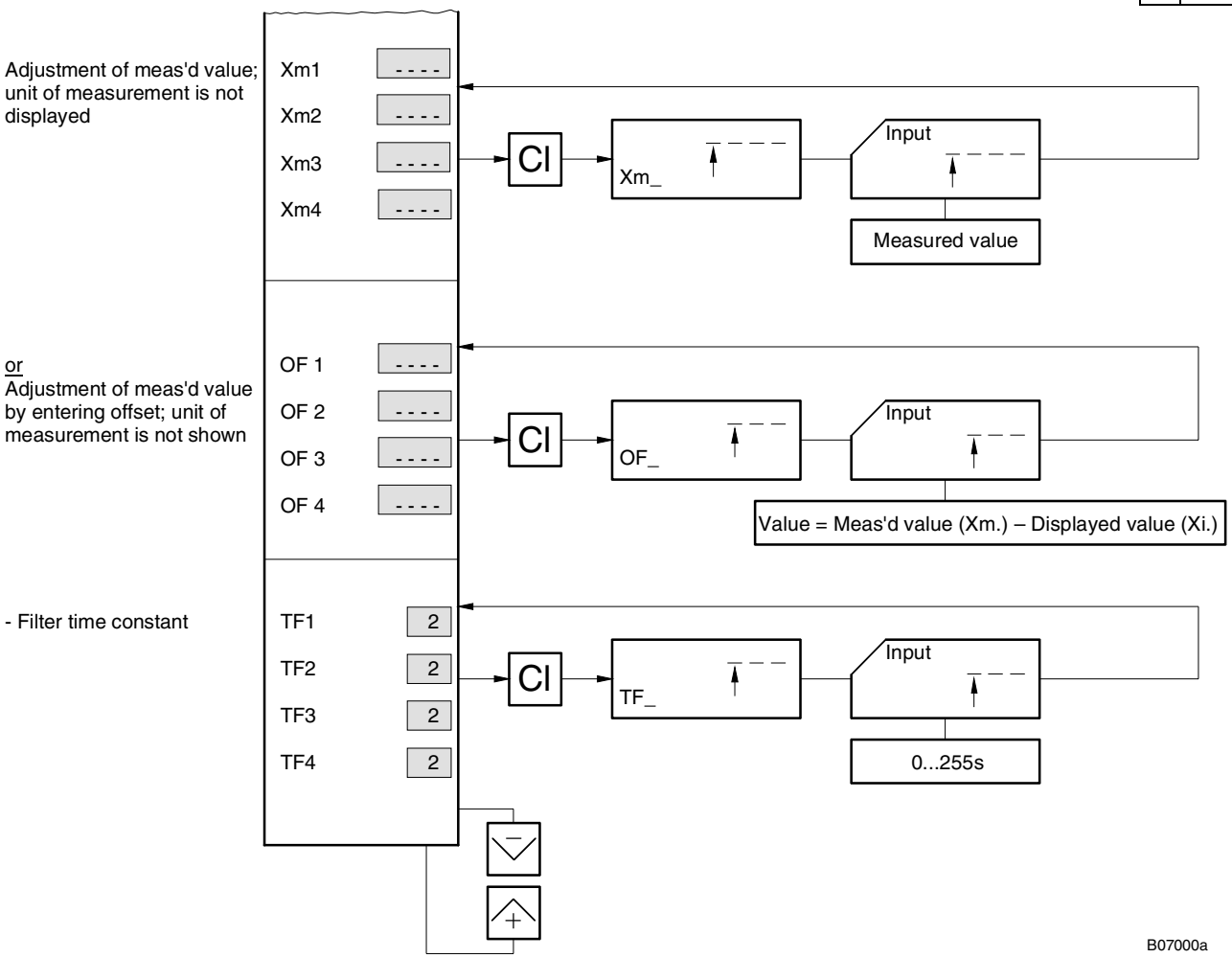
1) Enter code

2) Insert jumper at rear of unit.

4) Enter: bXi1 ▲ = bXi2 ▲ and bXi1 ▼ = bXi2 ▼ for differential controllers.

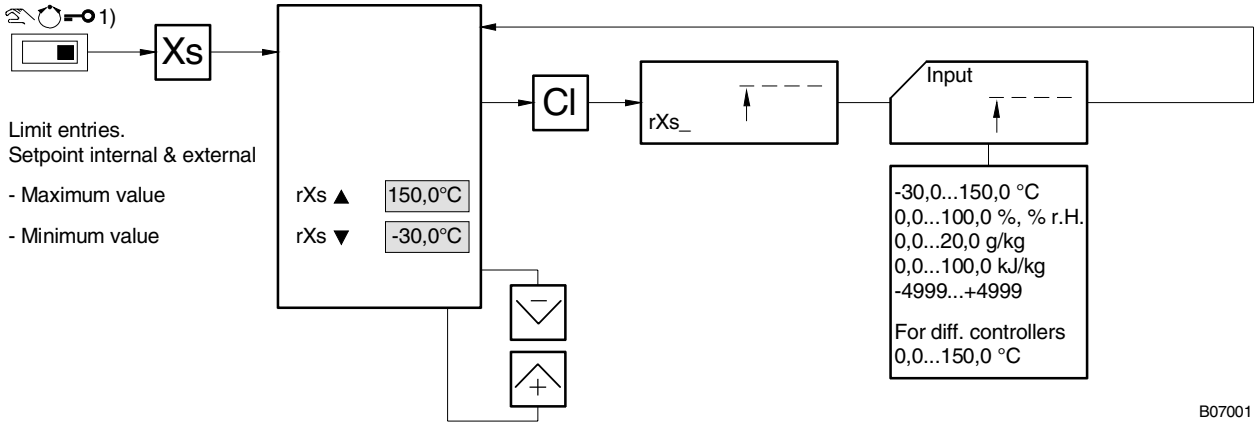
How to parameterise the data inputs

B	2-13/15/16
E	2-62



How to set the setpoint ranges

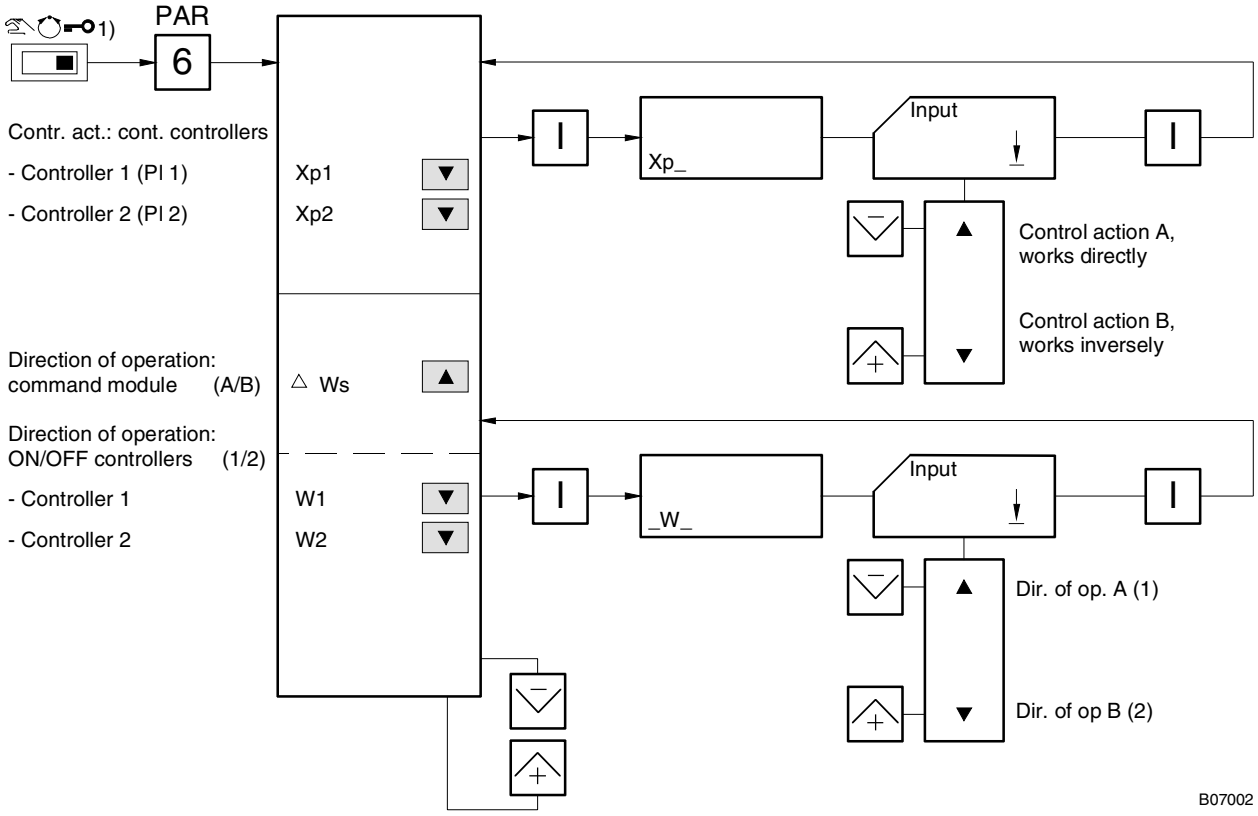
B	2-14
E	2-62



1) Enter code

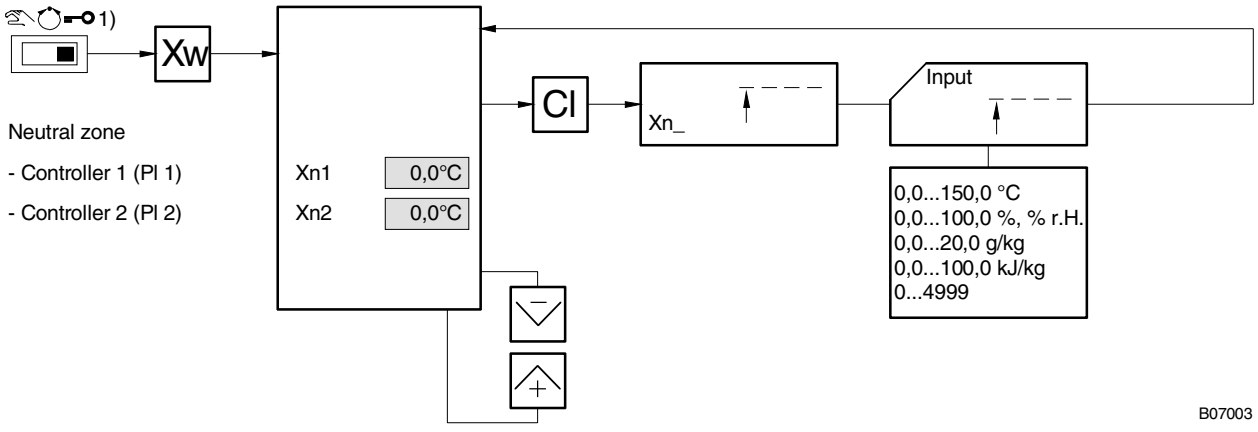
B	2-15
E	2-62/63

Set the control action and the direction of operation



B	2-17
E	2-63

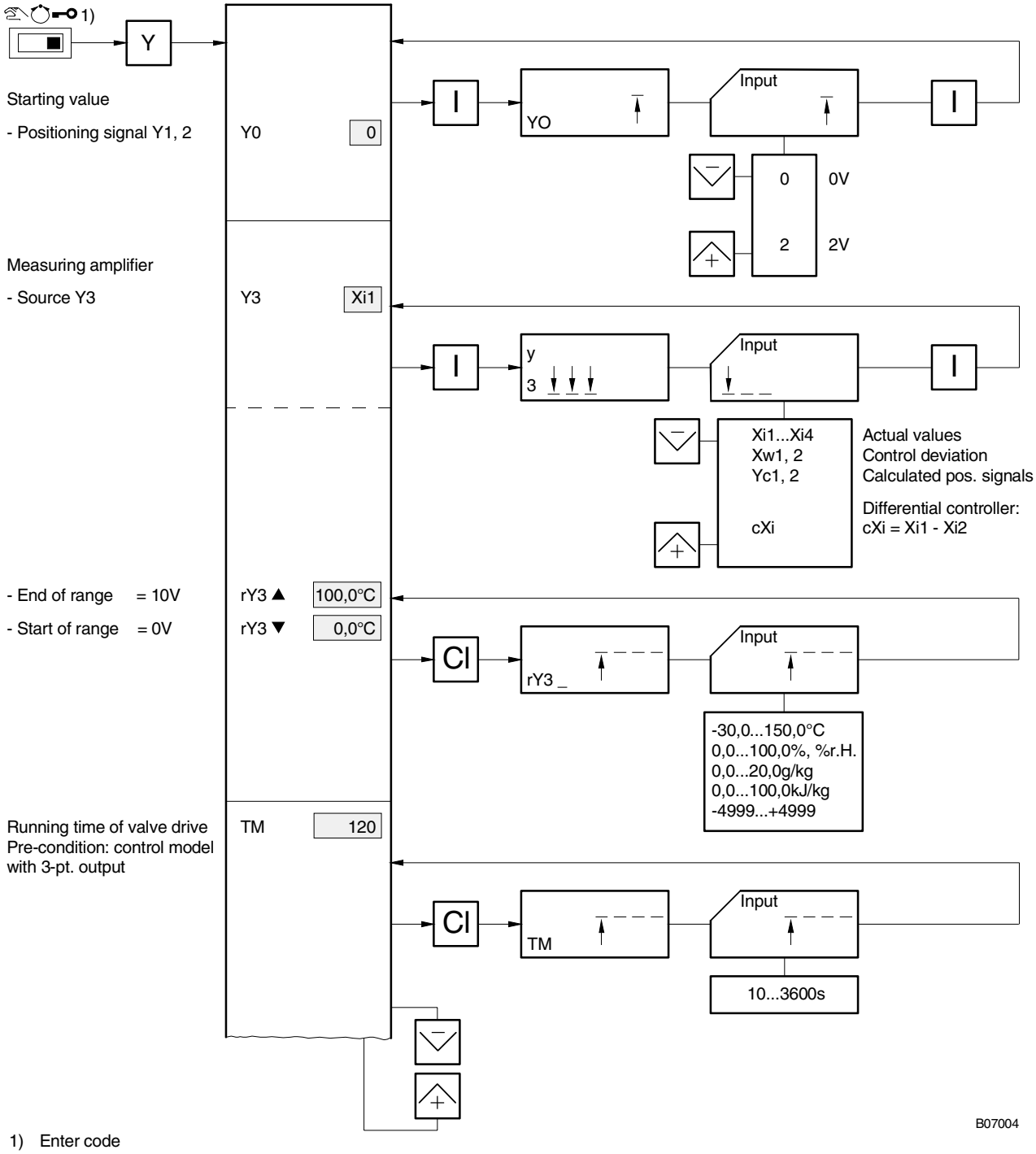
Neutral Zone



1) Enter code

B	2-14/15/18
E	2-63

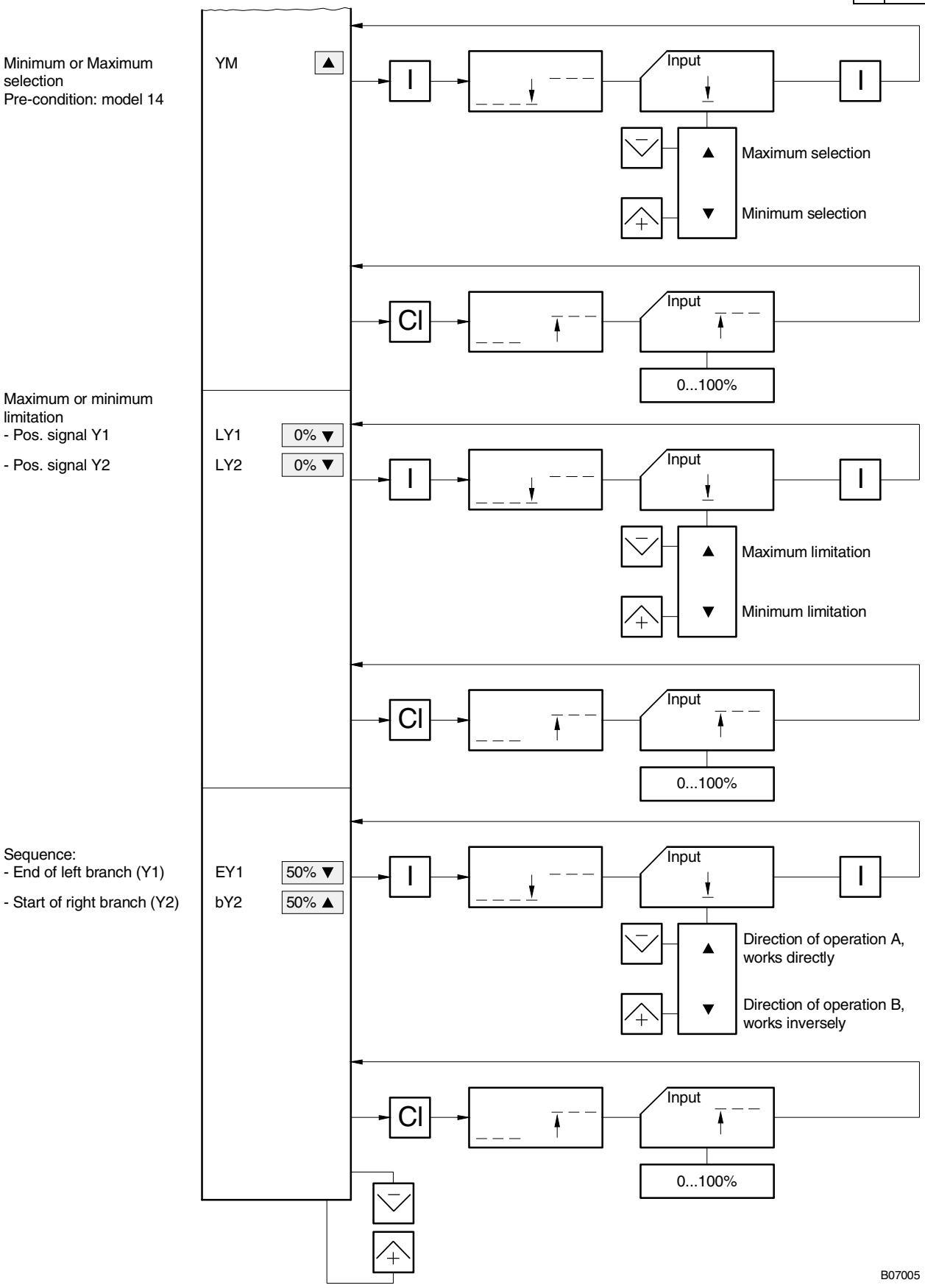
How to parameterise the control outputs



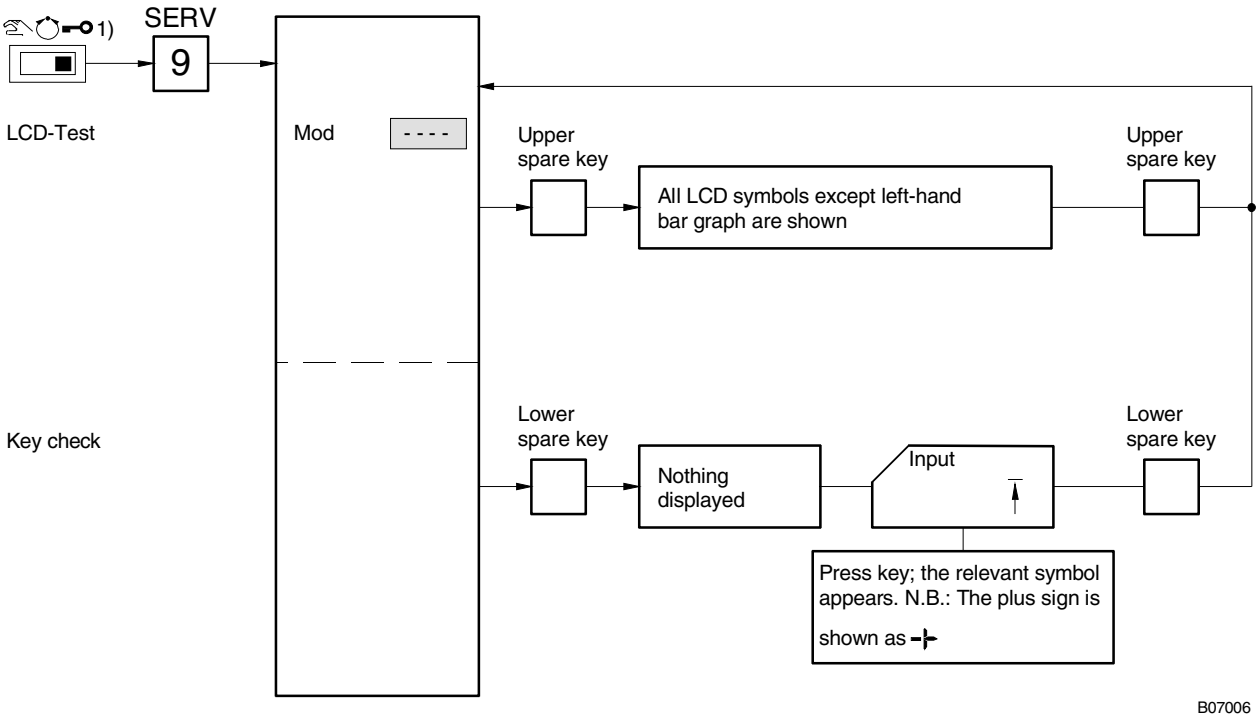
1) Enter code

How to parameterise the control outputs

B	2-9/11/12/18
E	2-63



LCD test and key check



1) Enter code

Description of parameters

bXi.▲, bXi.▼ **R**ange **Xi** for free unit of measurement and active transducer

Access: service level

B	2-5
E	2-62

If the 'free unit' is chosen or an active temperature transducer is used, the measuring range must also be stipulated. This is required, for example, when transducers with an output of 0...20 mA (equivalent to 0...1000 Pa) are used.

bY2 **S**tart **Y2**

Access: service level

B	2-9
E	2-63

Direction of operation and starting value of the sequence branch Y2 for dual sequence. End value and direction of operation can be set. BY2 always ends at 100% Yc. When setting, you should also note the control action of the valves and drives connected. See also EY1.

Cod **Cod**e number

Access: service level

B	2-4
E	–

To gain access to the service level, a password (code) has to be entered. It is 6-7-8-9 and cannot be changed. Access to the service level can also be prevented by sealing the mode switch.

cXi. **c**onfig **Xi**

Access: service level

B	2-5
E	2-62

Settings for the type of sensor connected. In addition, the jumper should be inserted at the rear of the unit.

Possibilities:

Type	Sensor	Type	Sensor
1	Ni1000	4	Current 0...20 mA
2	Voltage 0...10 V	5	Current 4...20 mA
3	Voltage 2...10 V	6	Potentiometer, voltage 0...1 V

cXs. Calculated setpoint

Access: service level

B	1-11/16
E	–

Calculated setpoint, e.g. for summer compensation. The setpoint cXs is calculated by the setpoint Xs shifted by the amount ▲WS. It has an adding or subtracting effect, depending on the configuration.

dXi. Unit of **m**easurement **Xi**

Access: service level

B	2-5
E	2-62

The actual value's unit of measurement for the display. This stipulation applies simultaneously for all associated parameters, such as setpoint, proportional band and shift parameters.

Possibilities:

Unit of measurement	
°C	g/kg
%	kJ/kg
% r.H. (r.F.)	- (free unit)

N.B.:
If 'free unit of measurement' is selected, no unit-of-measurement symbol is shown in manual and automatic modes.

EY1 **E**nd **Y1**

Access: Service level

B	2-9
E	2-63

Direction of operation and end value of the sequence branch Y1 for dual sequence. Y1 always begins at 0% Yc. End value and direction of operation can be set. Parameters EY1 and bY2 belong together. When setting, you should also note the control action of the valves and drives connected. See bY2.

F1 End of shift

Access: Manual

B	1-21/22
E	2-62

Determines the shift's end point on the command module. See also FP and ▲WS.

FP Start of shift

Access: Manual

B	1-21/22
E	2-62

Determines the shift's starting point on the command module. See also F1 and ▲WS.

Ini **Ini**tialisation

Access: Service level

B	2-4
E	–

Resets the controller's EEPROM (parameter memory) to the default values. If you change the number of the control model, you must perform an initialisation beforehand. Default values are shown with a grey background in the operating instructions.

LME — **L**oad **me**mory

Access: Service level

B	2-4
E	–

Loads the contents of the external parameter memory (‘memory’) into the controller's internal parameter memory. If any faults are found, an ‘F’ appears in the display. The memory, which is optional, is not necessary in order to run the controller.

LY. — **L**imit **Y.**

Access: Service level

B	2-9
E	2-63

Value and direction of operation of the Y-limitation. This limitation can be set for positioning signals only, and works only in automatic mode. The arrow ▲/▼ shows the limitation's direction of operation, while the value shows the minimum or maximum positioning signal as a percentage.
Application: e.g. for setting the minimum fresh-air content.

Mod — **Mod**el number

Access: Service level

B	2-4
E	2-62

The control-model number determines the basic function of the controller, and is the first thing that should be entered when putting the controller into operation. The entries are two-digit and the preceding nought must be entered as well. If an invalid model number is entered, a ‘0’ automatically appears. If you change the model number, carry out the ‘Ini’ function.

OF. — **Of**fset

Access: Service level

B	2-6
E	2-62

Shows the amount of correction due to adjustment of measured value:-
Example: Measured value 20.0 °C; preferred display (adjustment of measured value) 20.5 °C = offset –0.5.

RDT — Type of unit

Access: Manual; Service level

B	1-21/22 2-4
E	–

Shows the type of RDT 100.

rXsc▲ Upper setpoint limit of auxiliary controller

Access: Manual

B	1-21/22
E	2-63

Determines (in the case of cascade control) the maximum setpoint of the auxiliary controller. This parameter sets the maximum inlet temperature.

rXsc▼ Lower setpoint limit of auxiliary controller

Access: Manual

B	1-21/22
E	2-63

Determines (in the case of cascade control) the minimum setpoint of the auxiliary controller. This parameter sets the minimum inlet temperature.

rXs▲ Setpoint **r**ange **Xs**

Access: Service level

B	2-6
E	2-62

Sets the maximum input value. The value entered must be greater than or equal to rXs▼. If the parameters rXs▲ and rXs▼ are set to the same value, no Xs adjustment is possible.

rXs▼ Setpoint **r**ange **Xs**

Access: Service level

B	2-6
E	2-62

Sets the minimum input value. The value entered must be smaller than or equal to rXs▲.

rY3▲ **R**ange **Y3** output

Access: Service level

B	2-8
E	2-63

Sets the end of the range for the measuring amplifier in the case of a 10-Volt output, e.g. 40 °C.

rY3▼ **R**ange **Y3** output

Access: Service level

B	2-8
E	2-63

Sets the start of the range for the measuring amplifier in the case of a 0-Volt output, e.g. –20 °C.
If rY3▲ < rY3▼ is entered, you can, for instance, configure a P-controller with direction of operation B.

SME — **W**rite into **me**mory

Access: Service level

B	2-4
E	–

Writes (copies) the controller's parameters in the external parameter memory.

▲WS — **S**hift (**W**)

Access: Manual

B	1-21/22/23/24
E	–

Amount of shift. The command module has a shift effect on the active setpoint. In conjunction with the parameters FP and F1 (with preceding mathematical sign), shift is possible in all 4 quadrants. See also FP and F1.

▲WS▲/▼ — **S**hift (**W**)

Access: Service level

B	2-7
E	2-62

The command module's direction of operation. The command module has a shift effect on the active setpoint. In conjunction with the parameters FP and F1 (with preceding mathematical sign), shift is possible in all 4 quadrants.

TF. — **T**ime-**f**ilter (filter time constant)

Access: Service level

B	2-15
E	2-62

Filter time constant for measuring input. The range is 0 (off) to 255 seconds. The filter represents a mathematically approximated delay of the first degree. For fast controlled networks, it is important not to set the filter time constant too large. The delay causes an additional phase shift in the control loop, which can lead to hunting.
This function is intended, for example, for use in room-pressure control for arresting pressure surges. Do not use for attenuating fluctuating measured values, caused e.g. by disturbance. In this case, the source of the interference itself should be attenuated.

TM — Motor's running time

Access: Manual

B	2-8
E	2-63

Running time (in seconds) of motorised drive for 100% stroke; is needed only for three-point output and quasi-continuous control; the pulse duration is matched to the running time.

Tn. — Integral action time (standardised term)

Access: Service level

B	1-21/22/23/24
E	2-63

When Tn = 0, the I component is switched off; the controller then has purely a P characteristic.

Ver **Ver**sion

Access: Manual, service level

B	1-21/22/23/24 2-4
E	–

The software version is shown. This is needed when making technical enquiries.

W. ▲/▼ Direction of operation: 2-point controller

Access: Service level

B	2-7
E	2-63

Use ▲ or ▼ to set the direction of operation of the two-point controller. ▲ provides direction of operation 1 (relay cuts in when actual value rises), ▼ provides direction of operation 2 (relay cuts in when actual value is falling).

Xi. Actual value (standardised term)

Access: Manual; Automatic

B	1-10/16
E	–

Xm. Adjustment of **m**easured value **X**i

Access: Service level

B	2-6
E	2-62

Adjustment of measured value by entering the desired display value.

Xn. **X n**eutral

Access: Service level

B	2-7
E	2-63

Sets the neutral zone for the relevant control module. The controller's output is frozen within this zone. If Xw stays within the amount of (Xn/2), the control deviation is considered to be 0. The function has no influence on the Xw indication.

Xp. Proportional band (standardised term)

Access: Manual

B	1-21/22/23/24
E	2-63

Xp. ▲/▼ Control action: controller **Xp**

Access: Service level

B	2-7
E	2-63

Use ▲ or ▼ to set the controller's control action. ▲ provides control action A (works directly); ▼ provides control action B (works inversely).

Xs. Setpoint (standardised term)

Access: Manual; Automatic

B	1-11/16
E	2-63

Xsd. Switching difference

Access: Manual

B	1-22/23
E	2-63

Switching difference for ON/OFF controllers or two-point output Y2 as part of a positioning sequence in models 15...18. The range is then restricted.

	Direction of operation 1	Direction of operation 2
Xsd =	≤ bY2	≥ (100-bY2)

XsE. External setpoint

Access: Manual; Automatic

B	1-11/16
E	–

The external setpoint can be set either passively by a potentiometer or by active signals. Becomes active by closing contacts XsE. It always affects controller 1.

Xsh. Switching range

Access: Manual

B	1-24
E	2-63

Switching difference for three-point output. The switching difference amounts to 0.25 × Xsh.

Xw. Control deviation (standardised term)

Access: Manual; Automatic

B	1-10/16
E	–

Difference between controlled variable (Xi) and setpoint (Xs).

Y. Positioning signal (standardised term)

Access: Manual; Automatic

B	1-12/13/17/18/19/20
E	–

Controller output; voltage signal 0 or 2...10 V.

Y0. **Y-0**-Point

Access: Service level

B	2-8
E	2-63

Stipulates the starting value for the Y-outputs 1+2, (0 = 0 Volt, 2 = 2 Volt). Output Y3 always works from 0...10 Volt.

Y3. **Y3.-** source

Access: Service level

B	2-8
E	2-63

Output Y3 can be used as a measuring amplifier. This parameter determines the input and is used, e.g., to transmit the actual value. Parameterised accordingly, a P-controller, for instance, can also be configured as a simple anti-frost system. By assigning Yc, a triple sequence can be formed in conjunction with Y1+2.

Yc. Calculated positioning signal

Access: Manual; Automatic

B	1-12/13/17/18/19/20
E	–

Calculated controller output in 0...100%; is converted into a positioning signal of either 0...10 V or 2...10 V. In the case of dual sequence, the positioning signals Y1 and Y2 are formed from this.

YM **Ym**in-selection / **Ym**ax-selection

Access: Service level

B	2-9
E	2-63

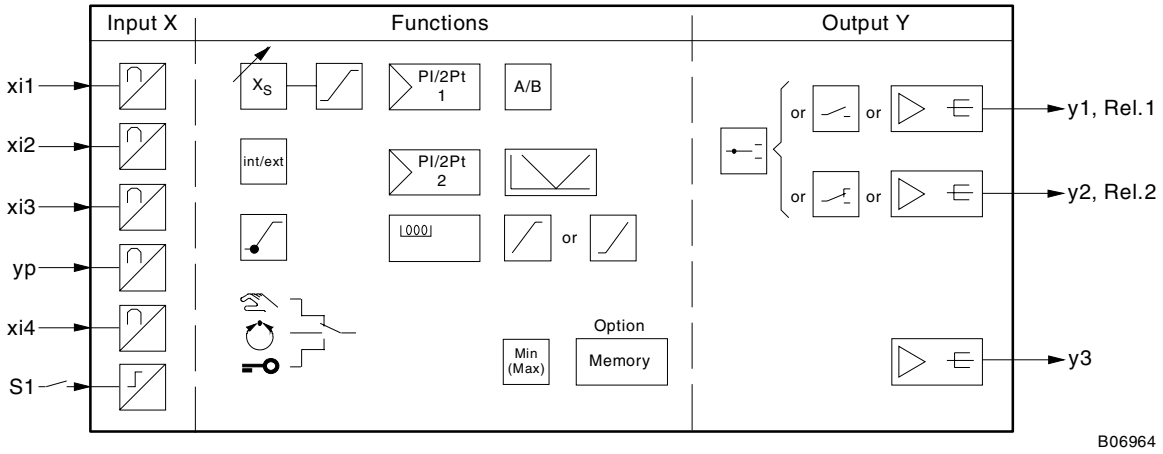
Available only for control model 14. Maximum selection can also be achieved by externally connecting control outputs in parallel. By connecting an EXG100 active potentiometer in parallel with a control output, the minimum fresh-air content, for example, can be set externally.

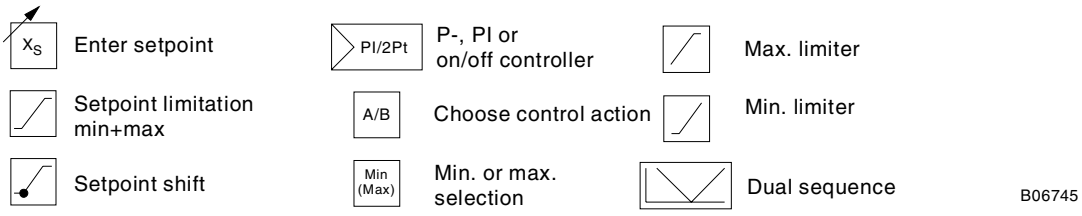
List of models

List of models	No. of control model				
Controller's structure	1 output continuous	Sequence: continuous-continuous	Sequence: continuous-2-pt	1 output 2-pt	1 output PI (3-pt)
1 fixed-value controller	**0**	**1**	**15**	**20**	**30**
with command	**2**	**3**	**16**	**22**	**31**
2 fixed-value controllers	**12**	**–**	**–**	**21**	**–**
with common actual value	**13**	**–**	**–**	**27**	**–**
with y = min/max selection	**14**	**–**	**–**	**–**	**–**
1 controller with command	**–**	**–**	**–**	**23**	**–**
with common command	**–**	**–**	**–**	**24**	**–**
common actual value; one with command	**–**	**–**	**–**	**25**	**–**
common actual value; common command	**–**	**–**	**–**	**28**	**–**
1 cascade controller	**4**	**5**	**17**	**–**	**32**
with command	**6**	**7**	**18**	**–**	**33**
1 difference controller	**8**	**9**	**–**	**29**	**34**
with command	**10**	**11**	**–**	**26**	**35**

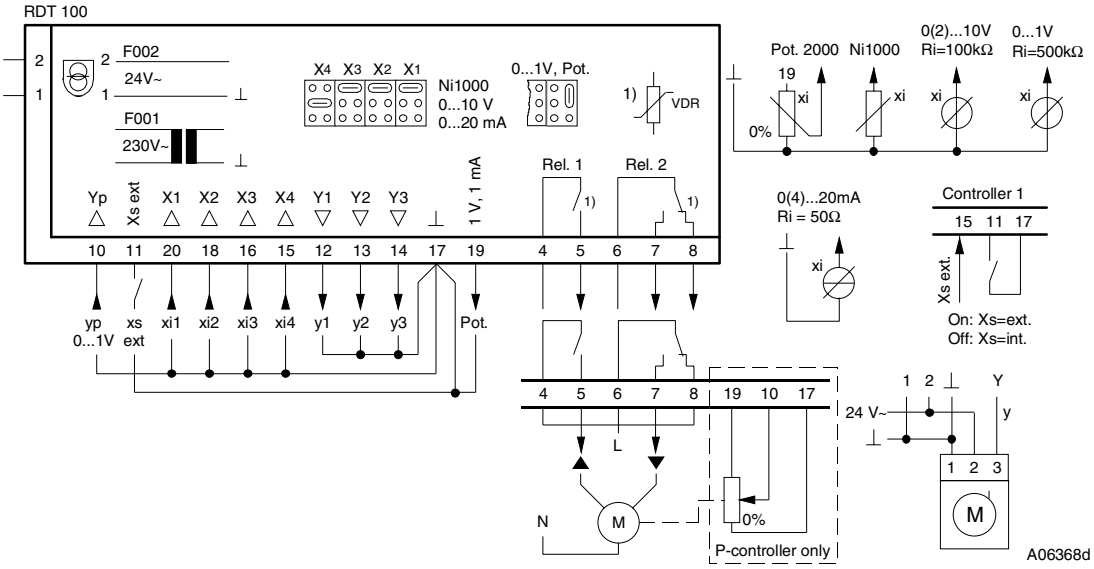
General block diagram

Flexotron 300 RDT 100



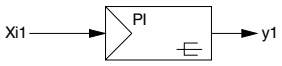


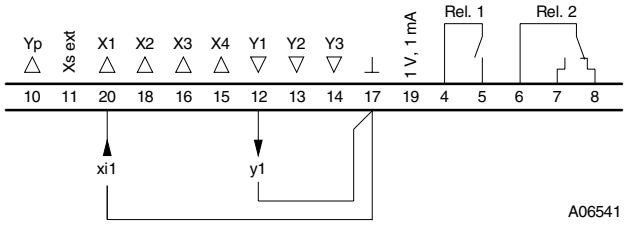
Wiring diagram



Connection diagrams

Model: 0





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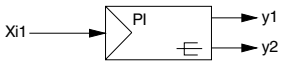

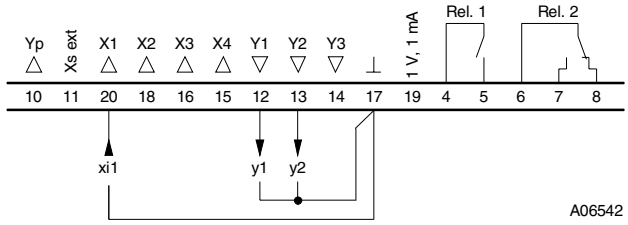

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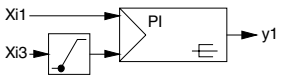

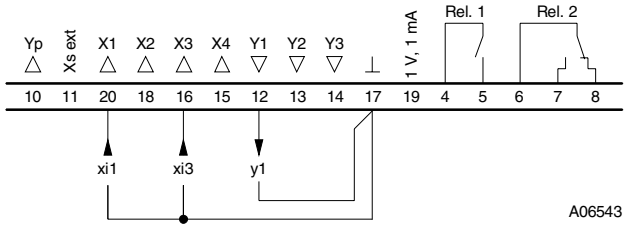

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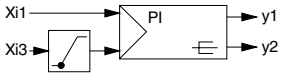

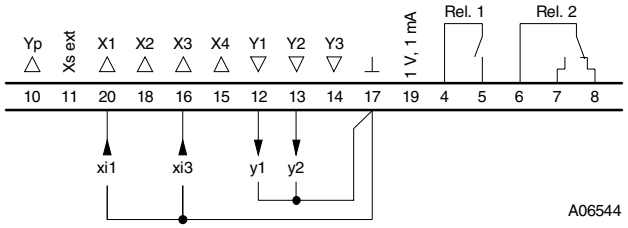

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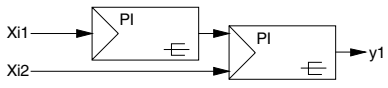

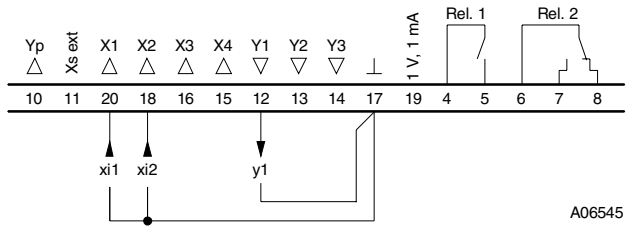

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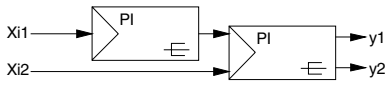

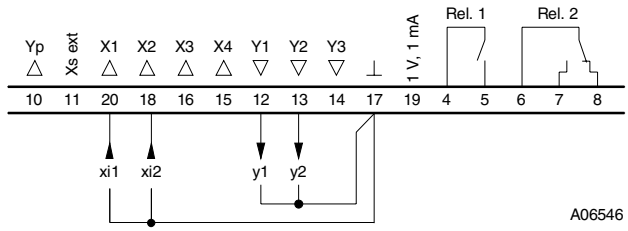

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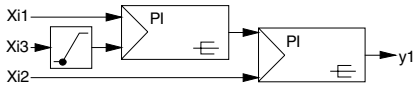

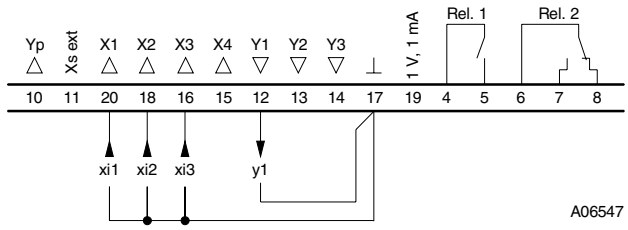

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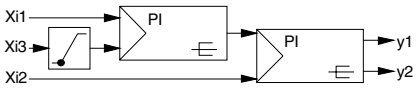

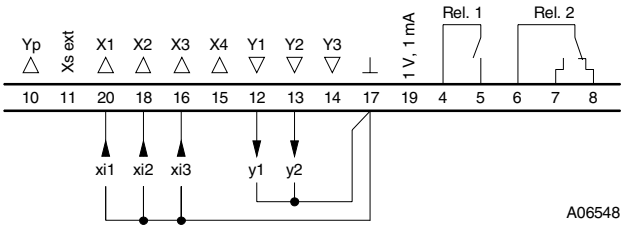

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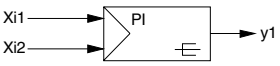

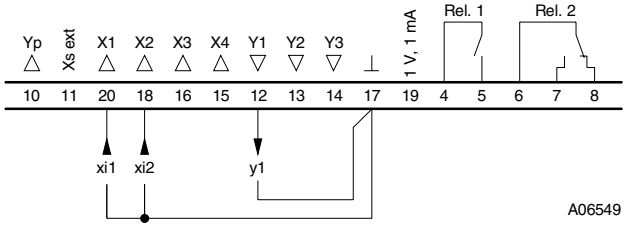

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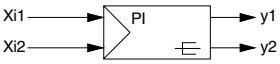

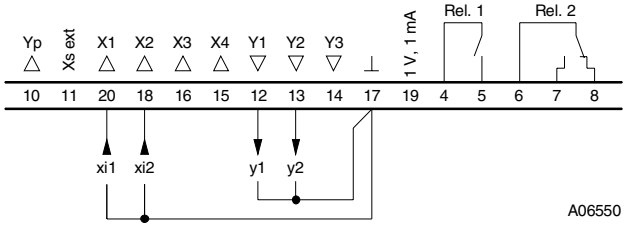

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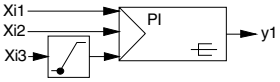

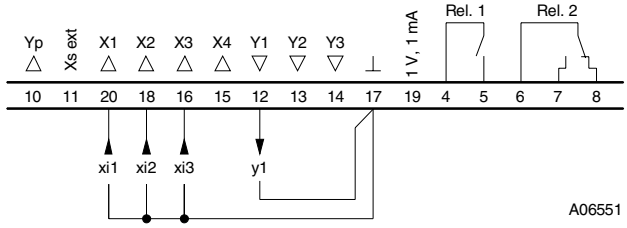

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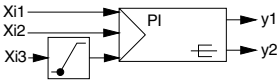

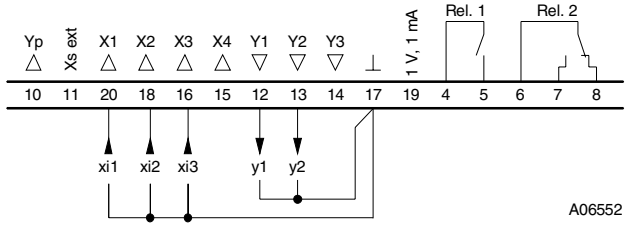

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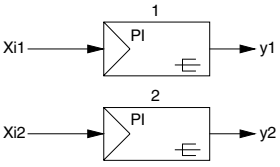

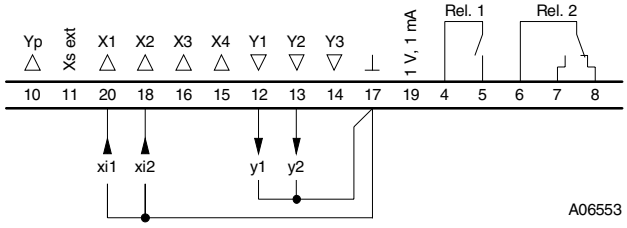

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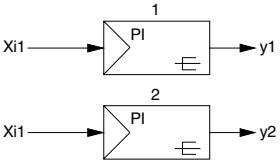

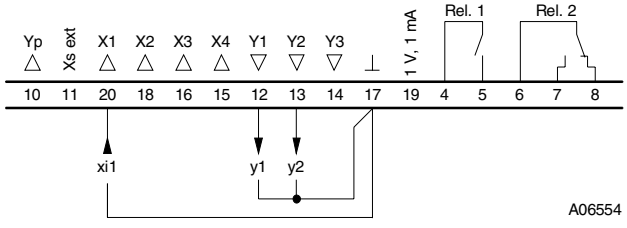

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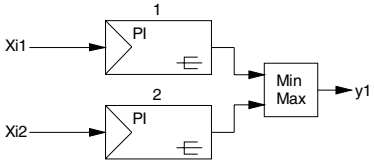

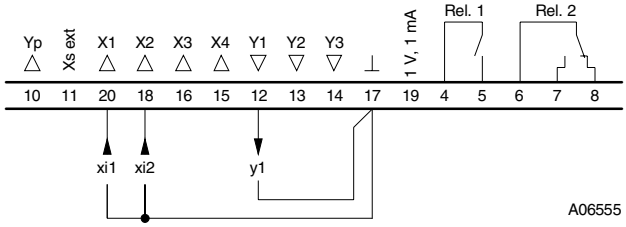

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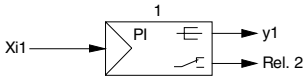

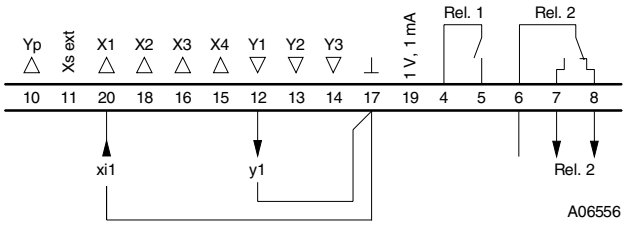

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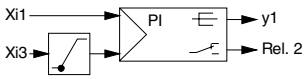

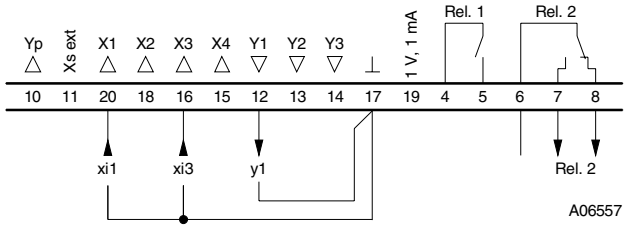

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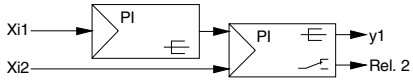

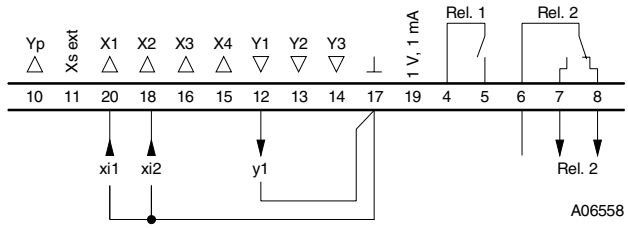

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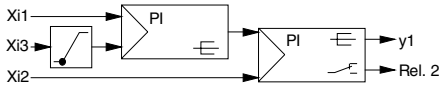

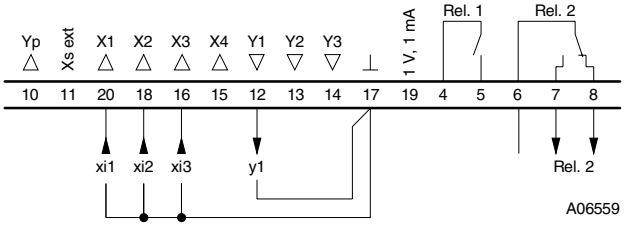

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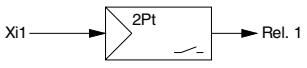

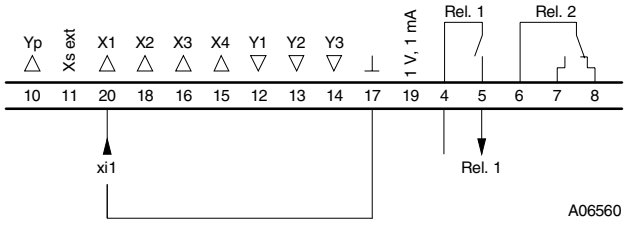

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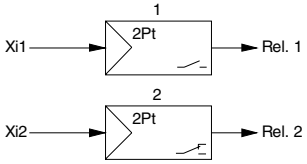

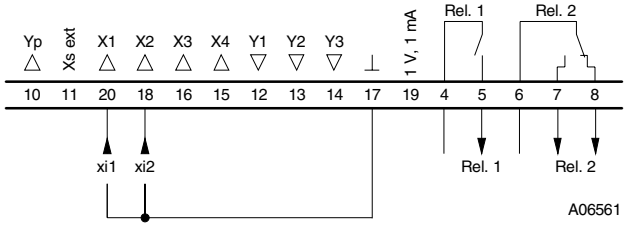

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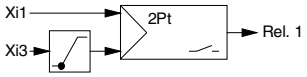

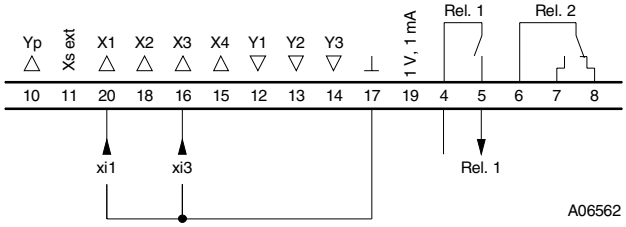

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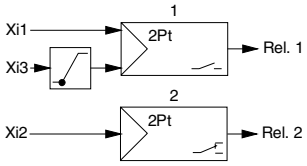

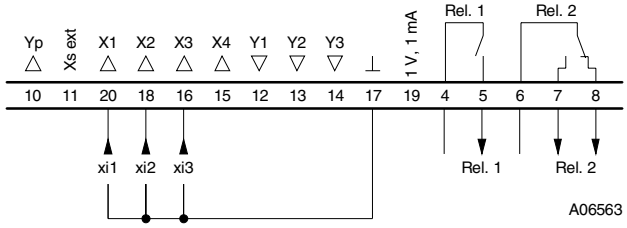

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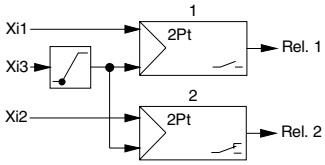

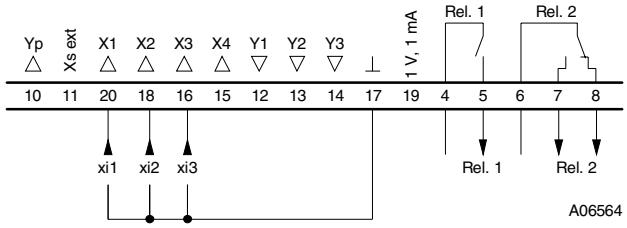

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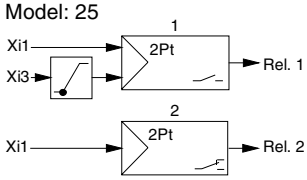

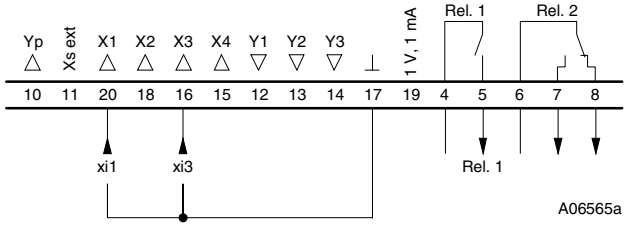

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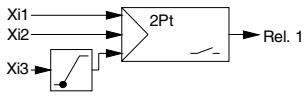

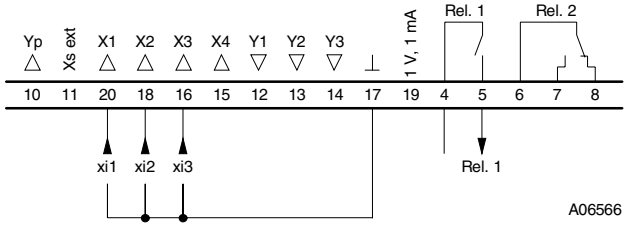

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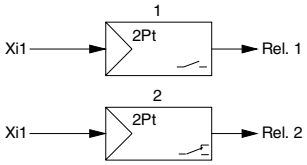
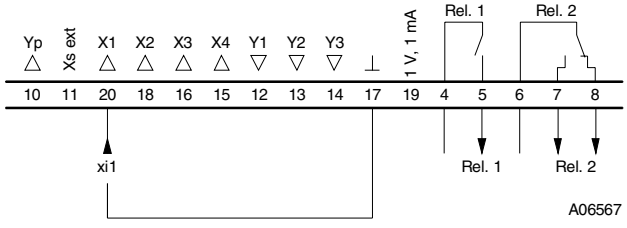
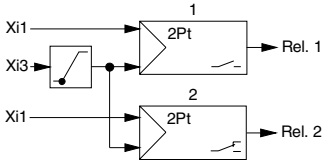
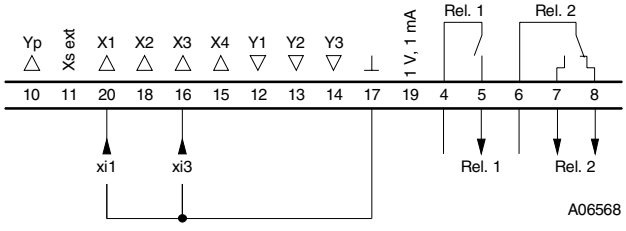


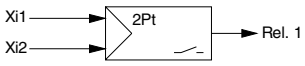


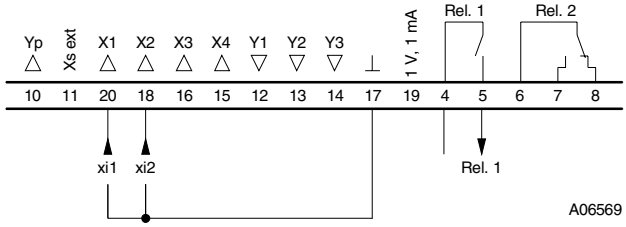
Model: 28



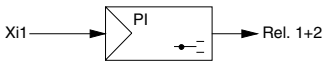


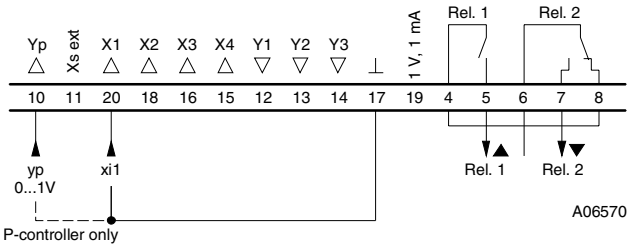
Model: 29



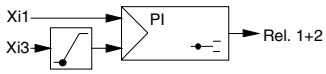


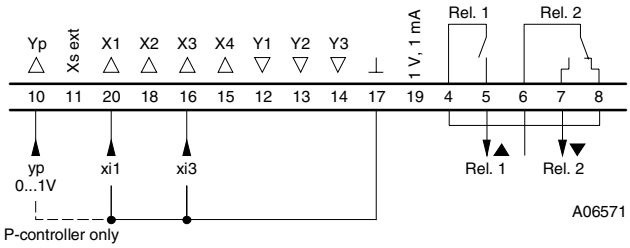
Model: 30



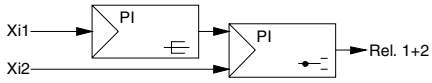


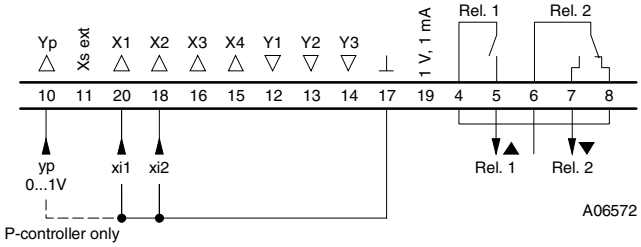
Model: 31



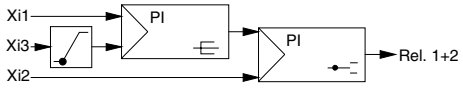


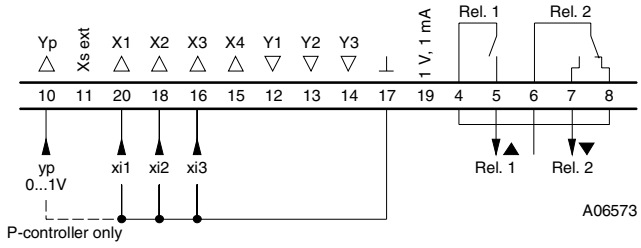
Model: 32



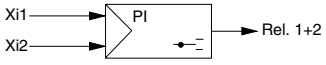


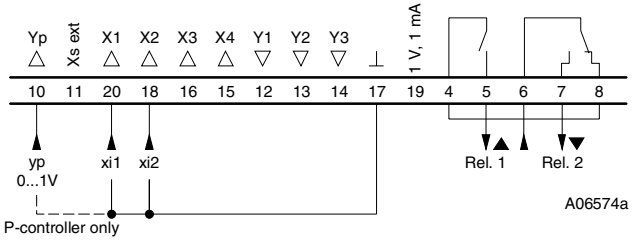
Model: 33



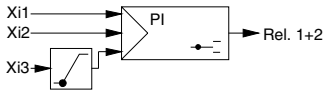


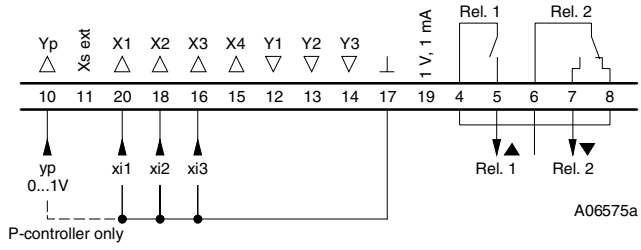
Model: 34 (Differential controller)



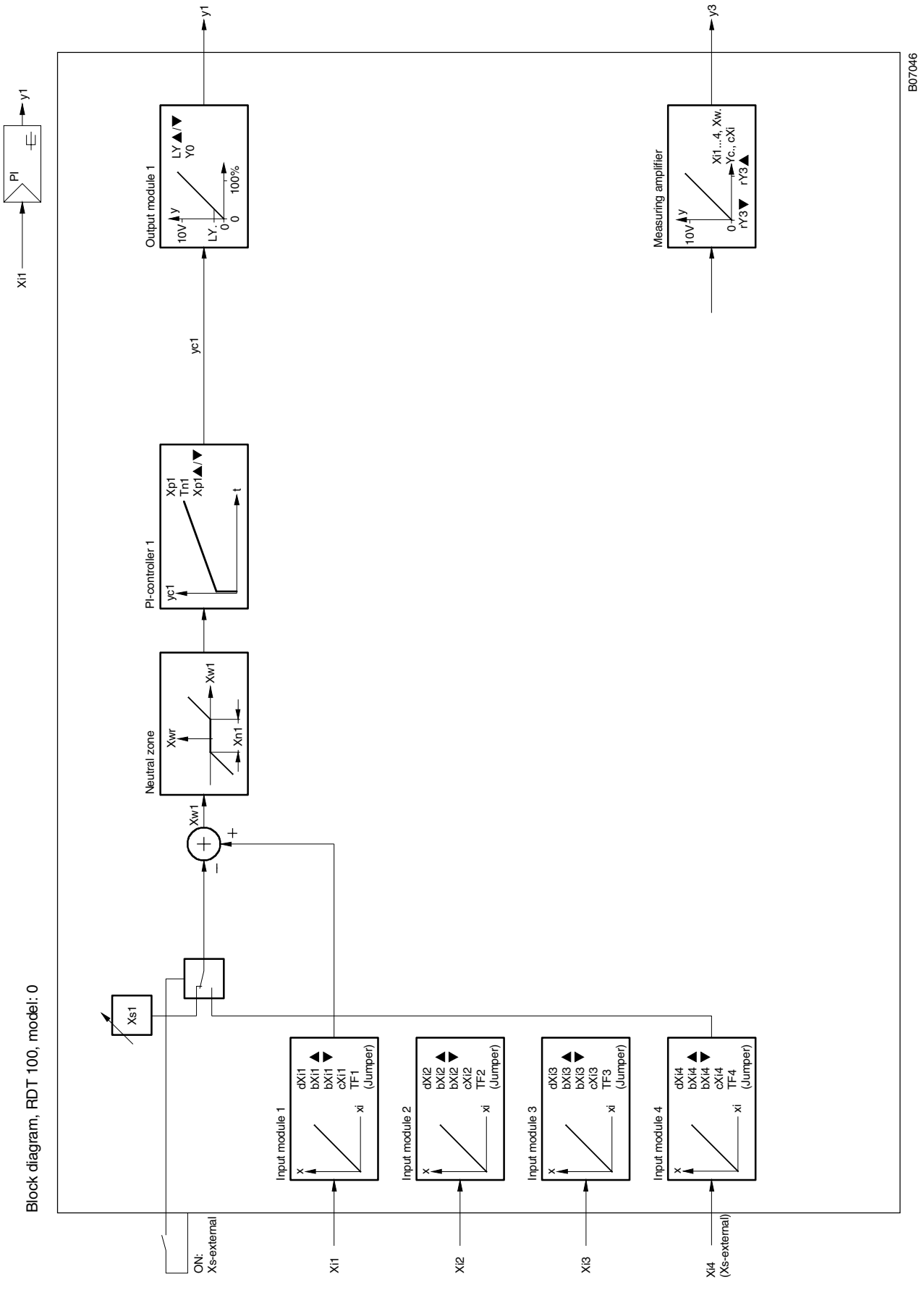


Model: 35 (Differential controller)

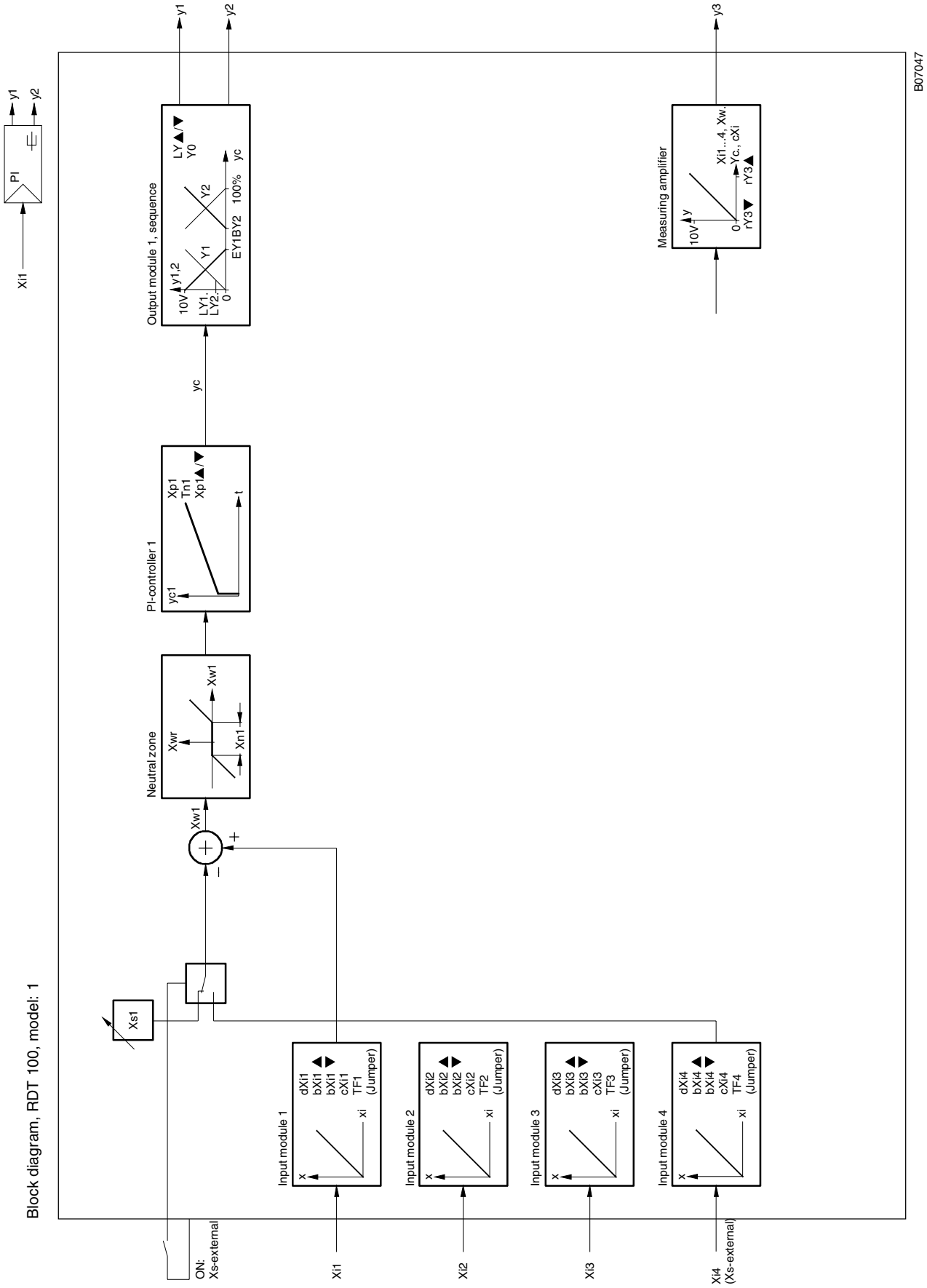




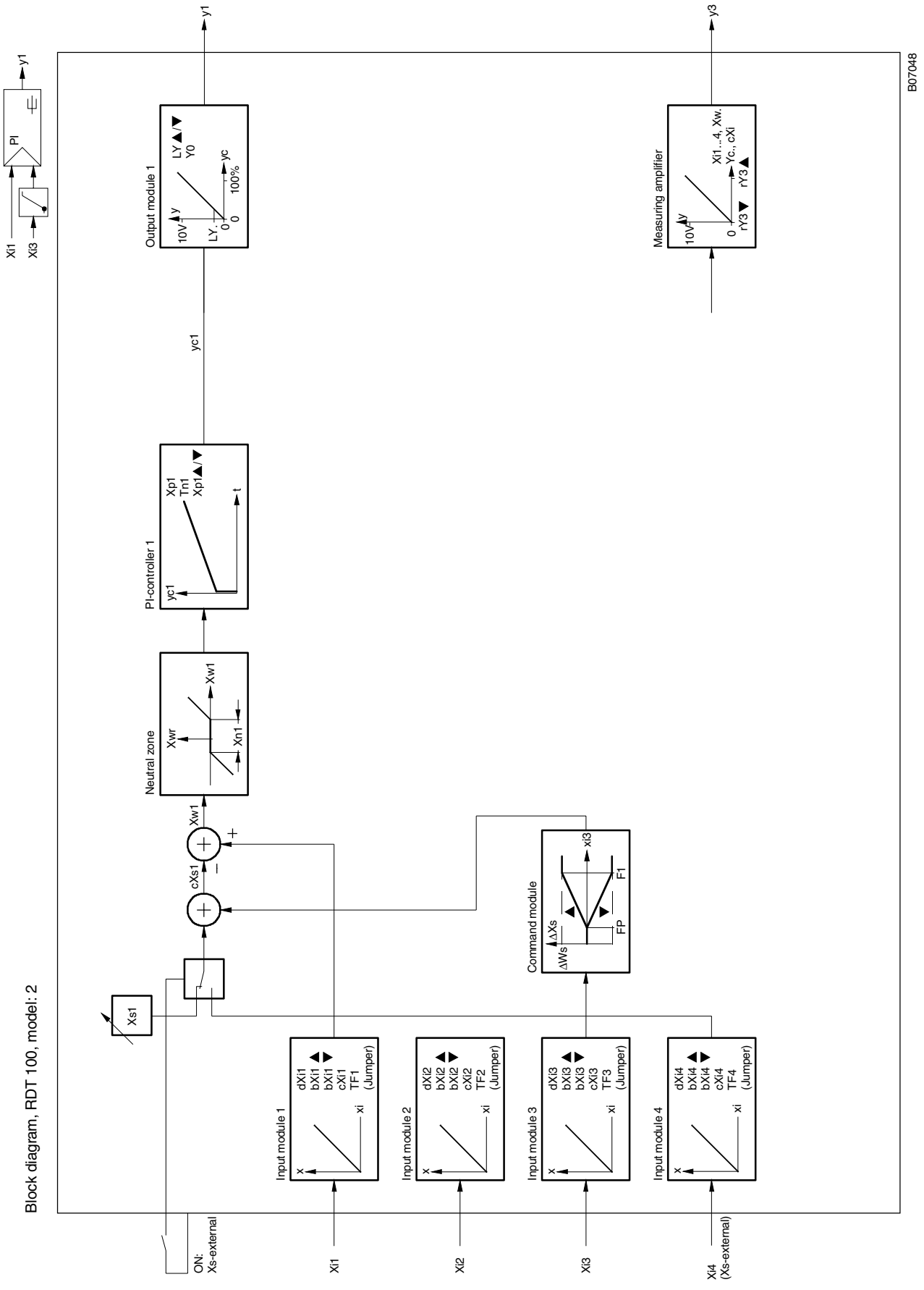
Block diagram RDT 100 Model: 0



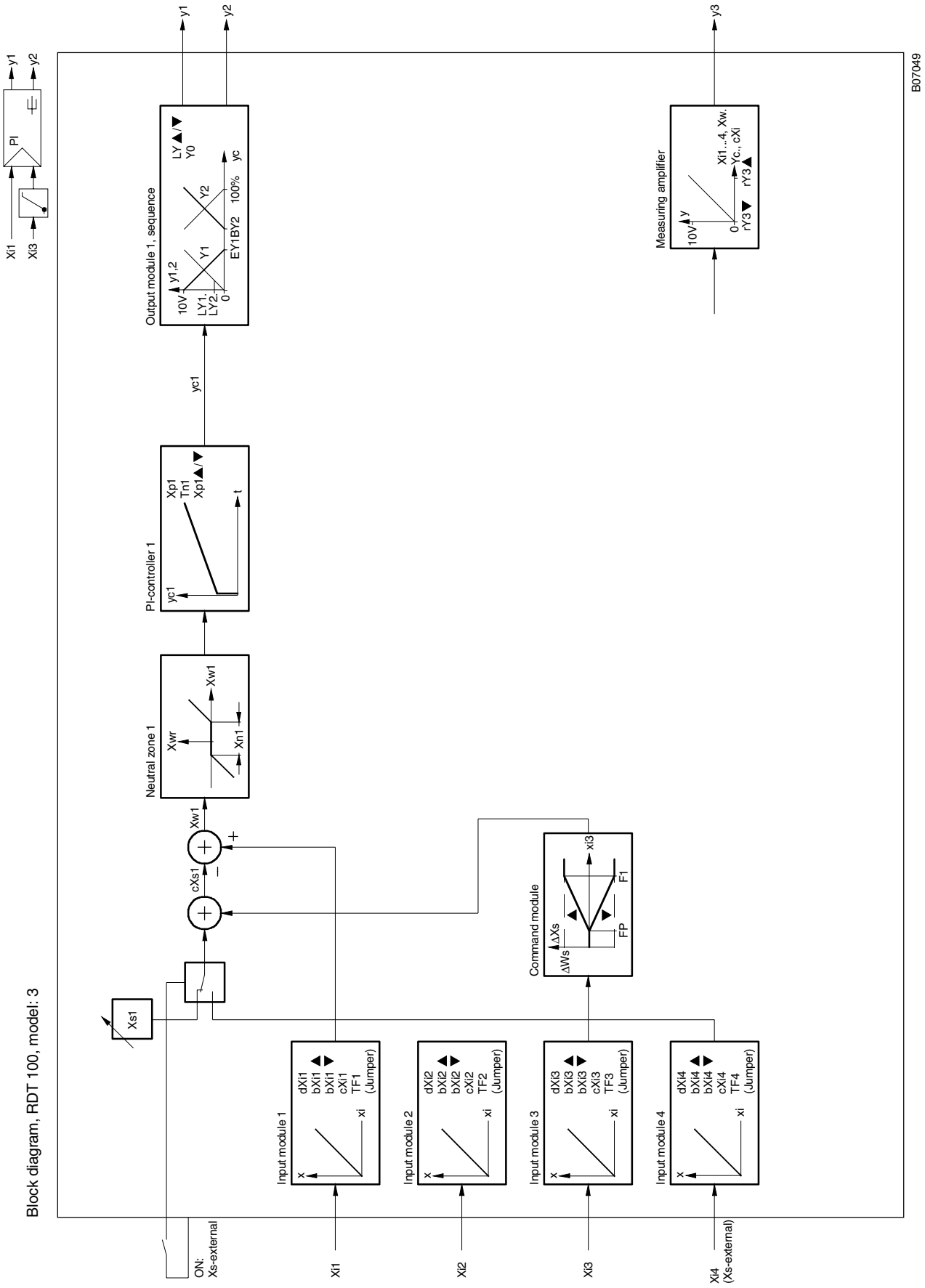
Block diagram RDT 100 Model: 1



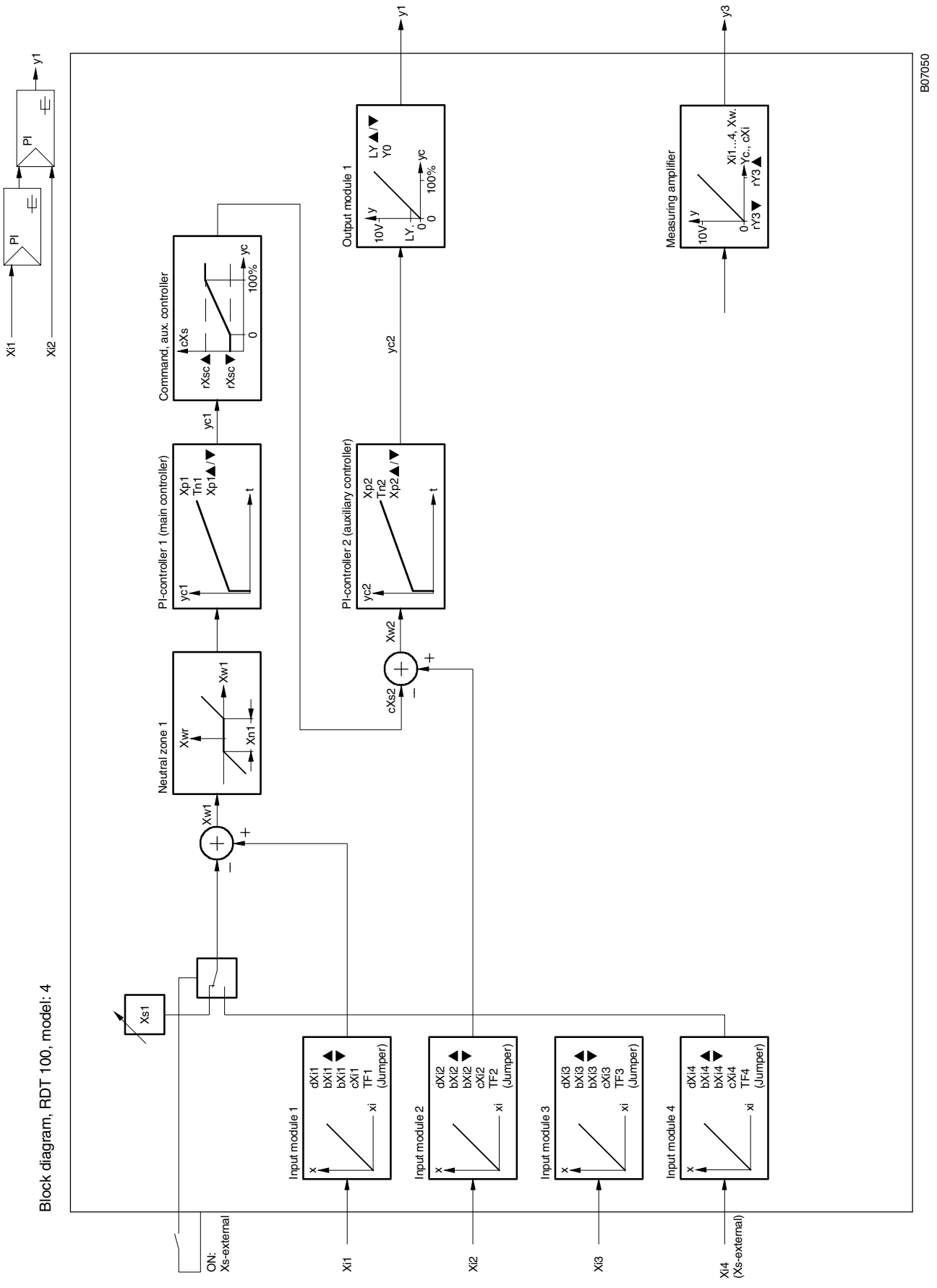
Block diagram RDT 100 Model: 2



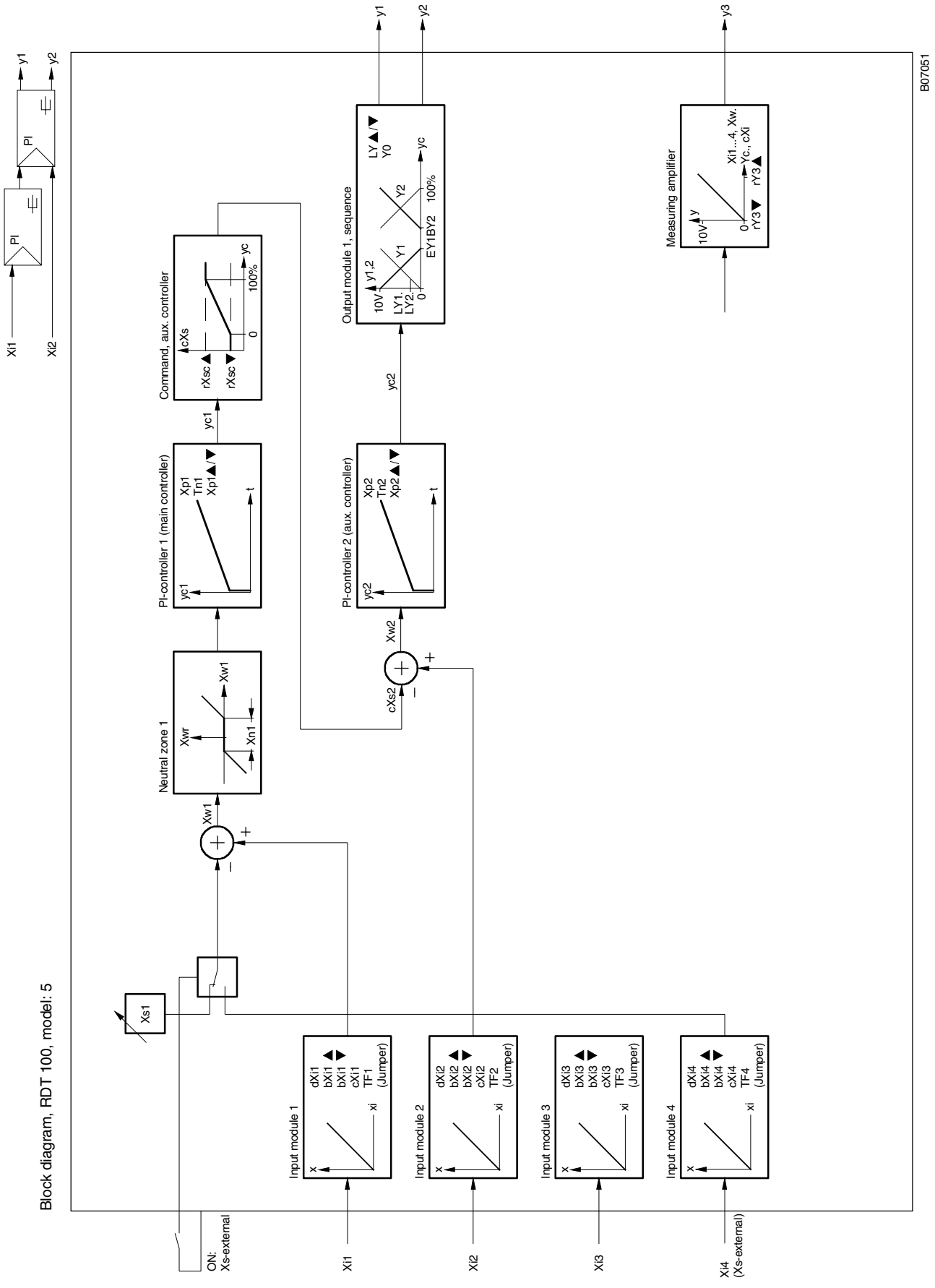
Block diagram RDT 100 Model: 3



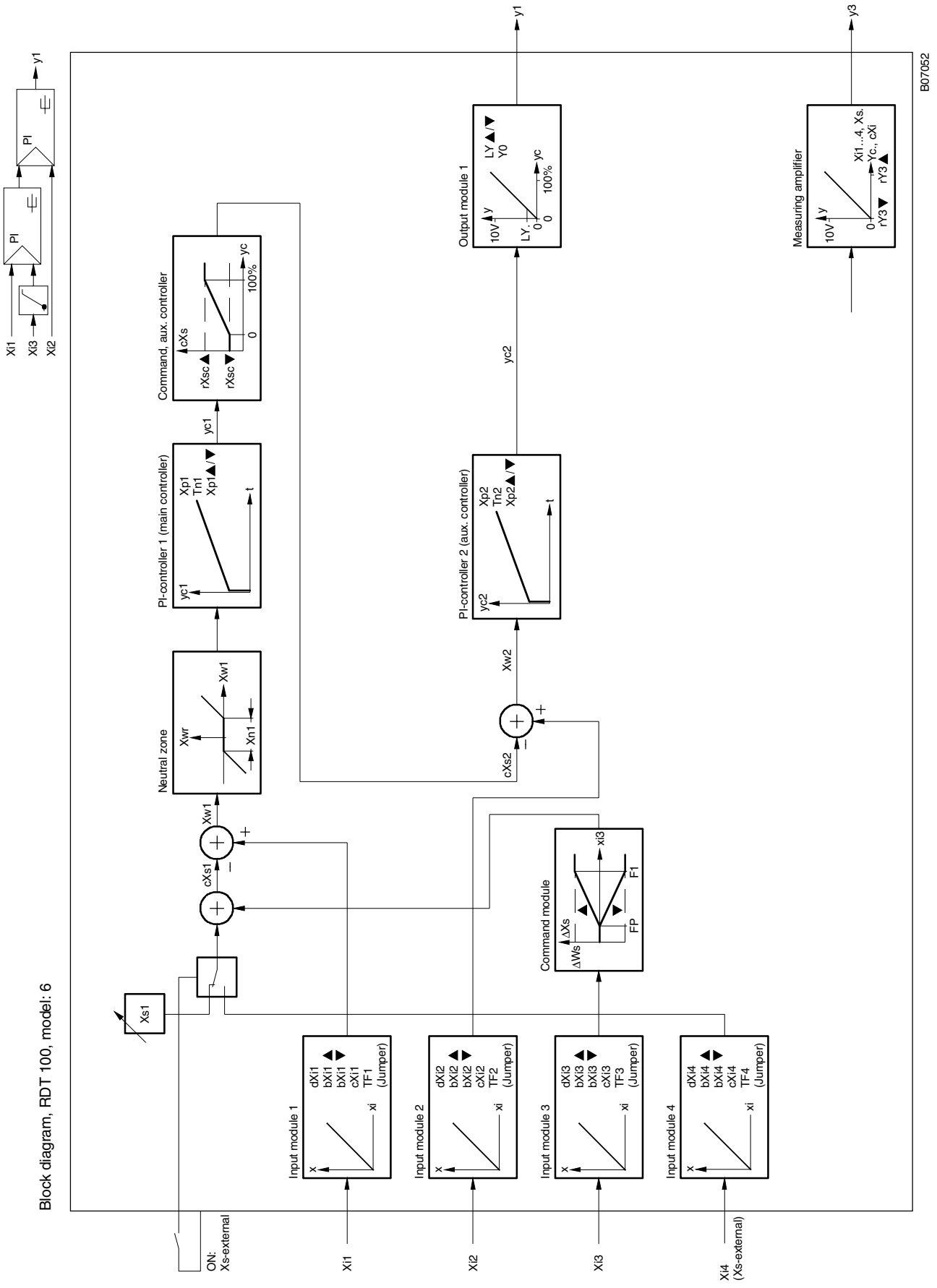
Block diagram RDT 100 Model: 4



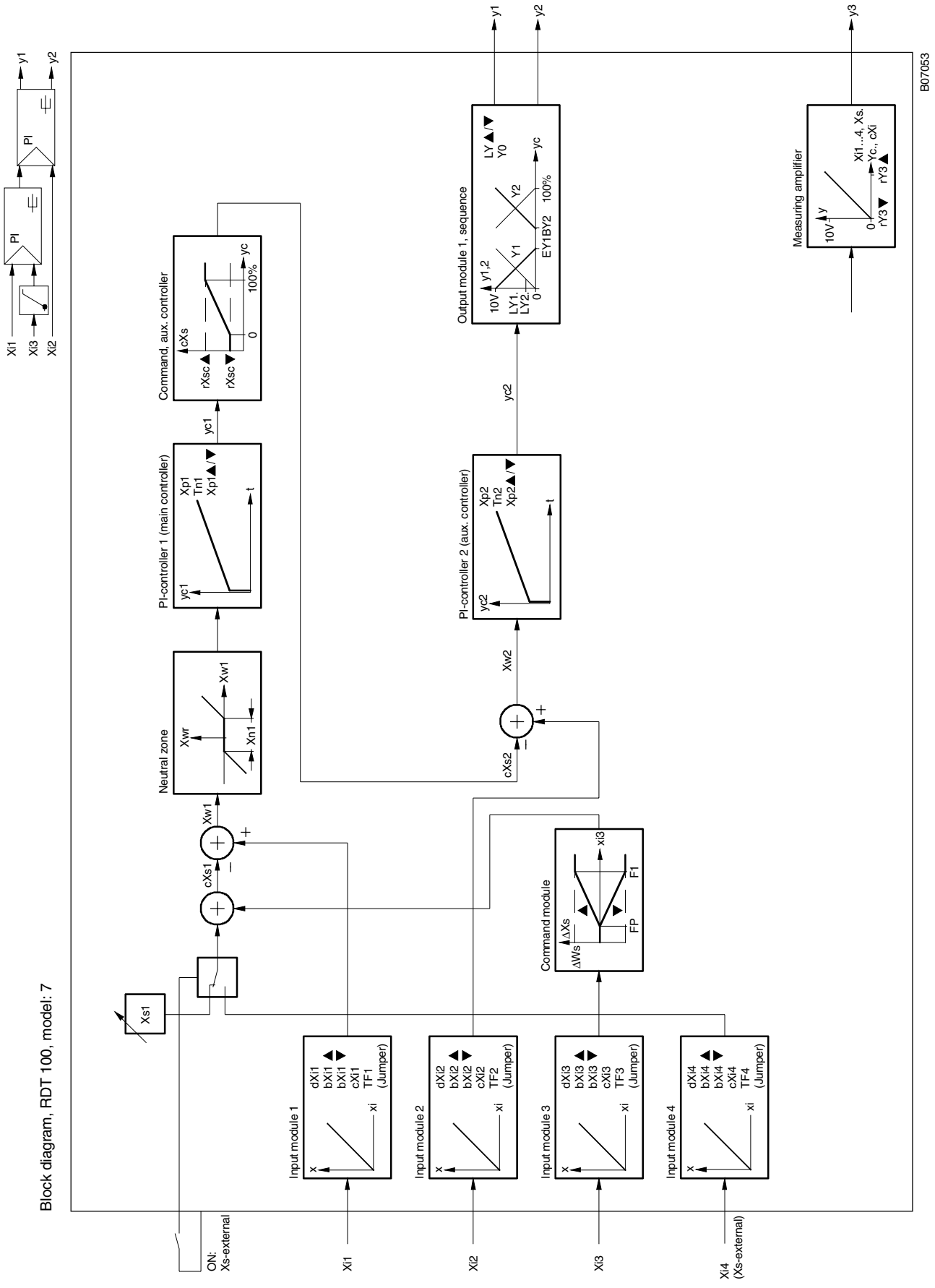
Block diagram RDT 100 Model: 5



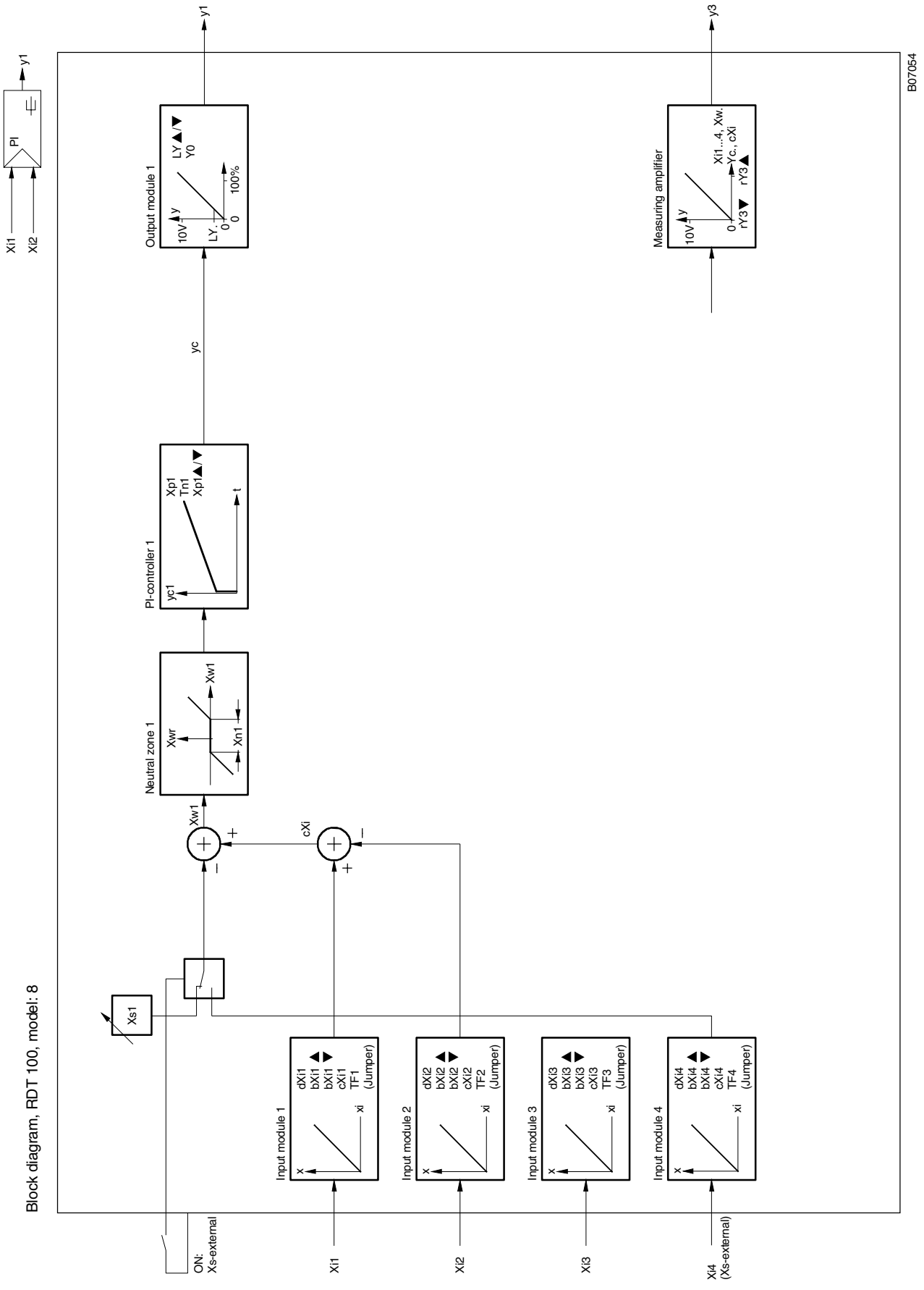
Block diagram RDT 100 Model: 6



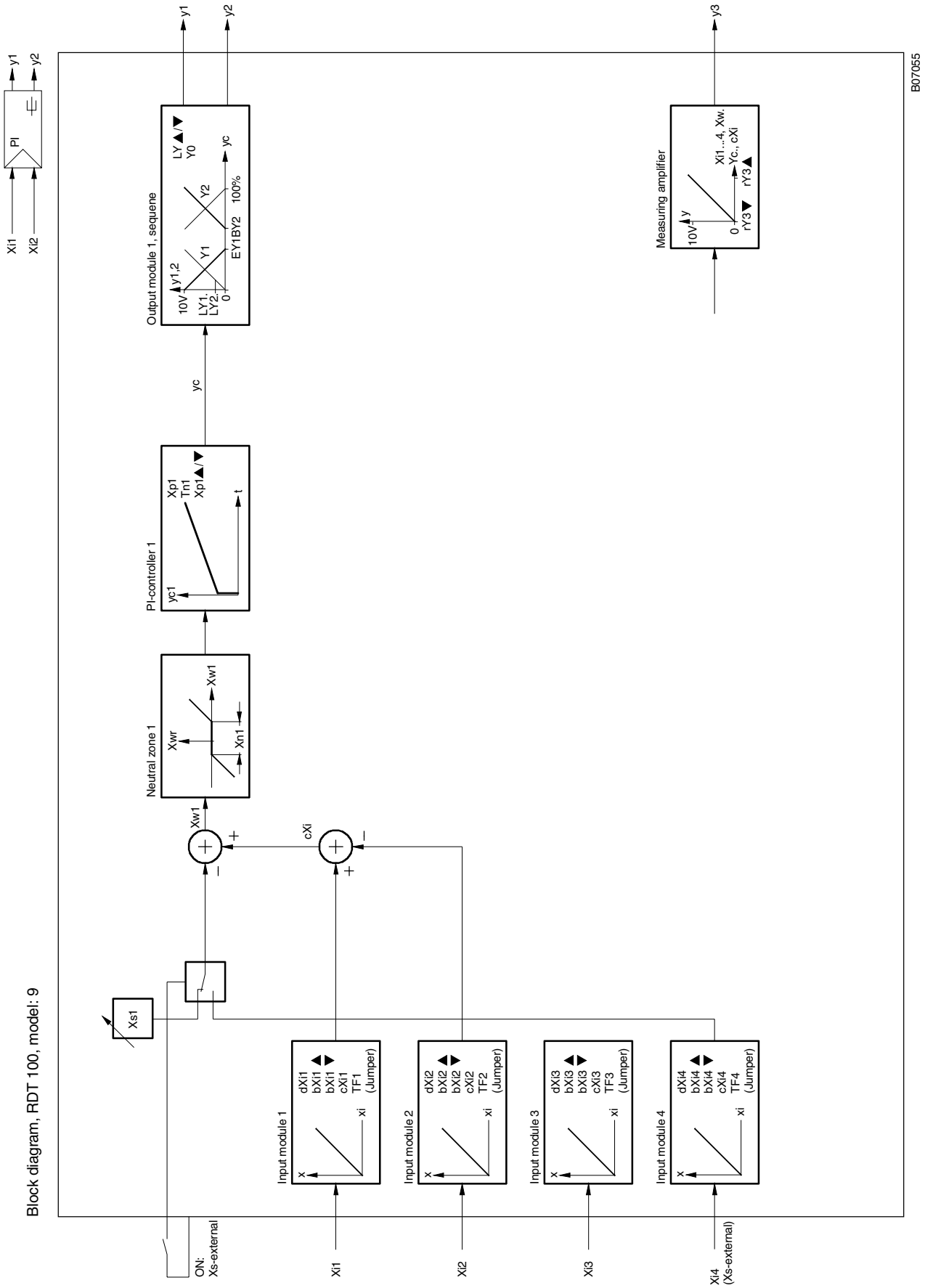
Block diagram RDT 100 Model: 7



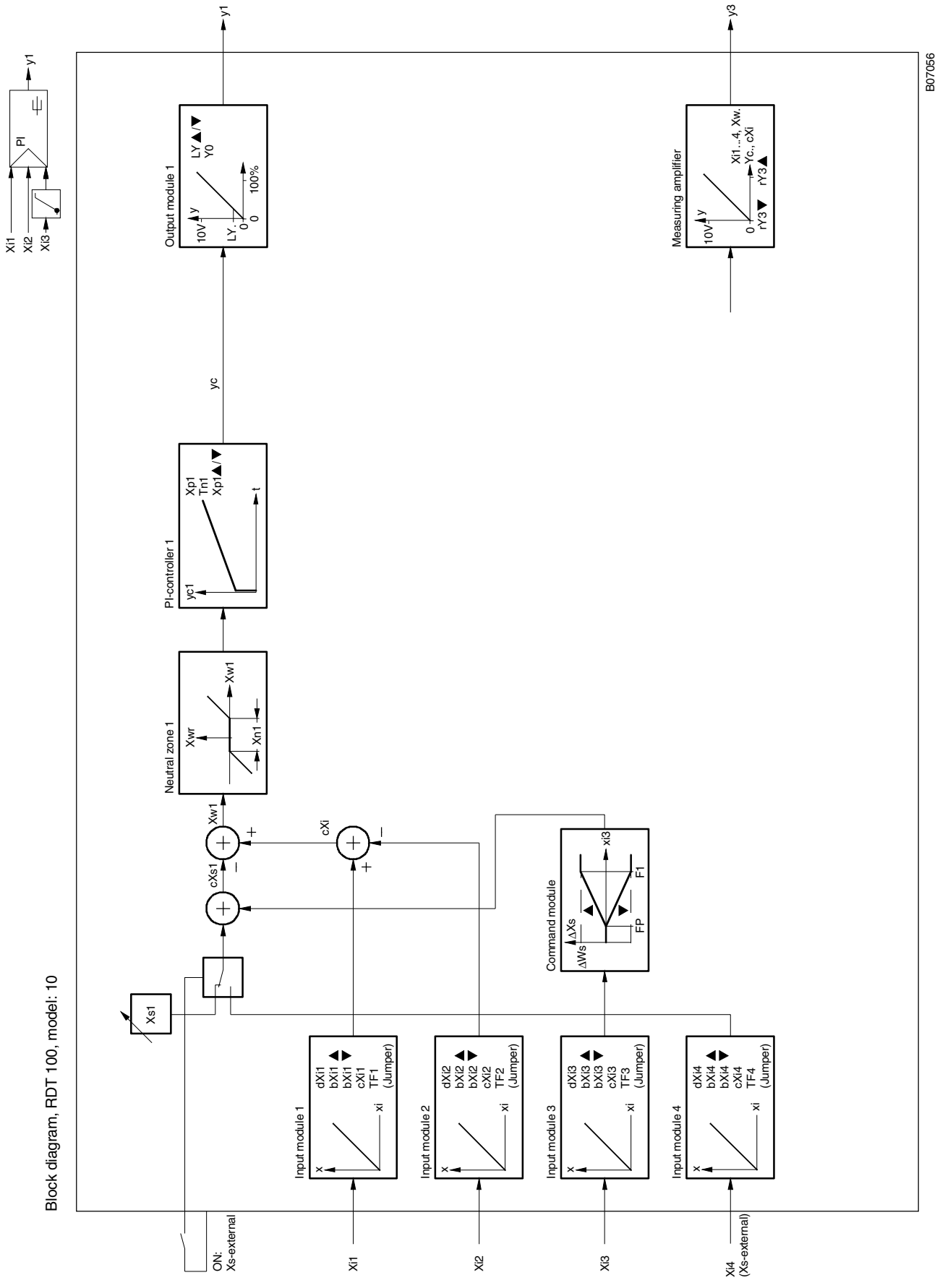
Block diagram RDT 100 Model: 8



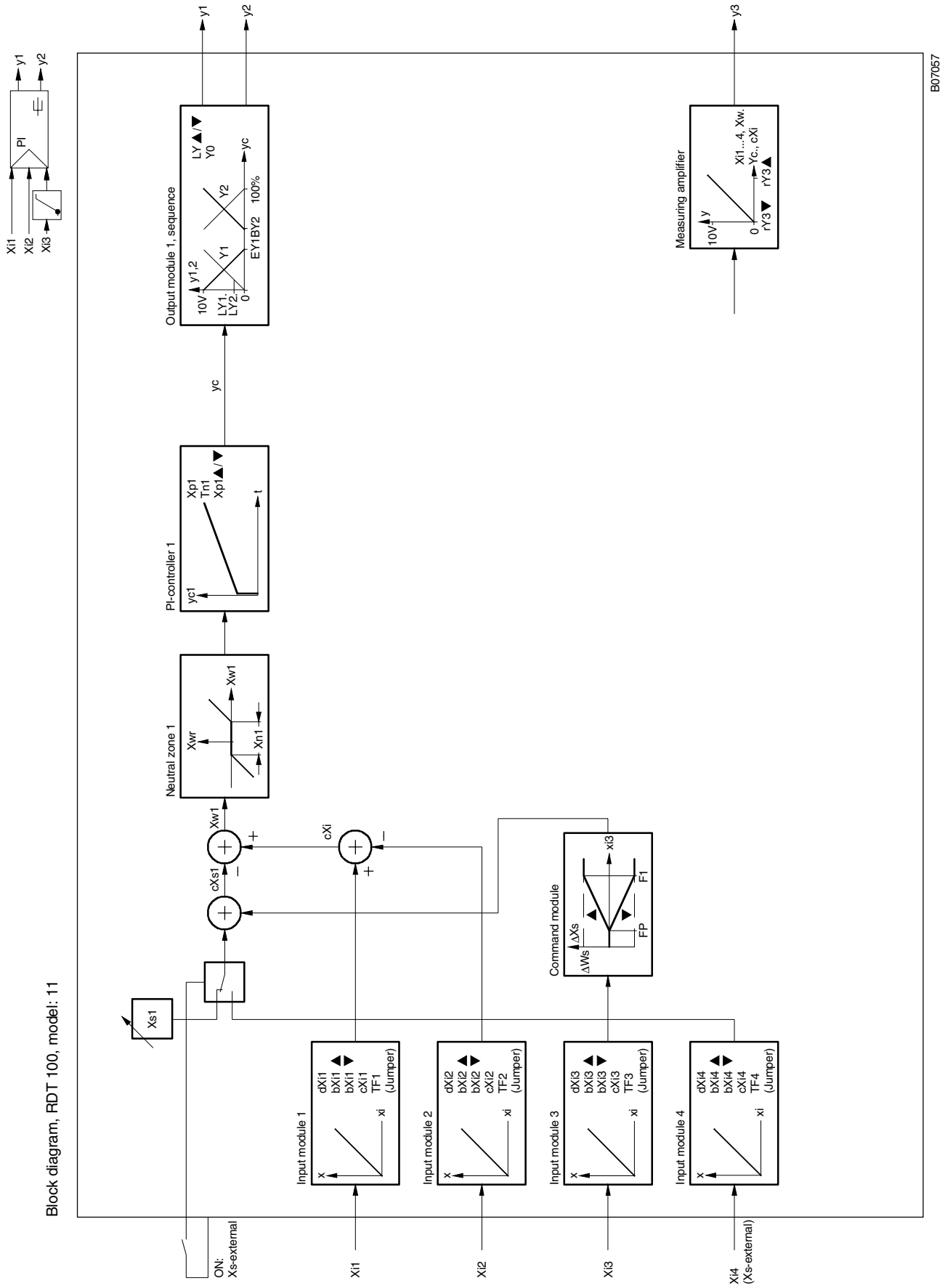
Block diagram RDT 100 Model: 9



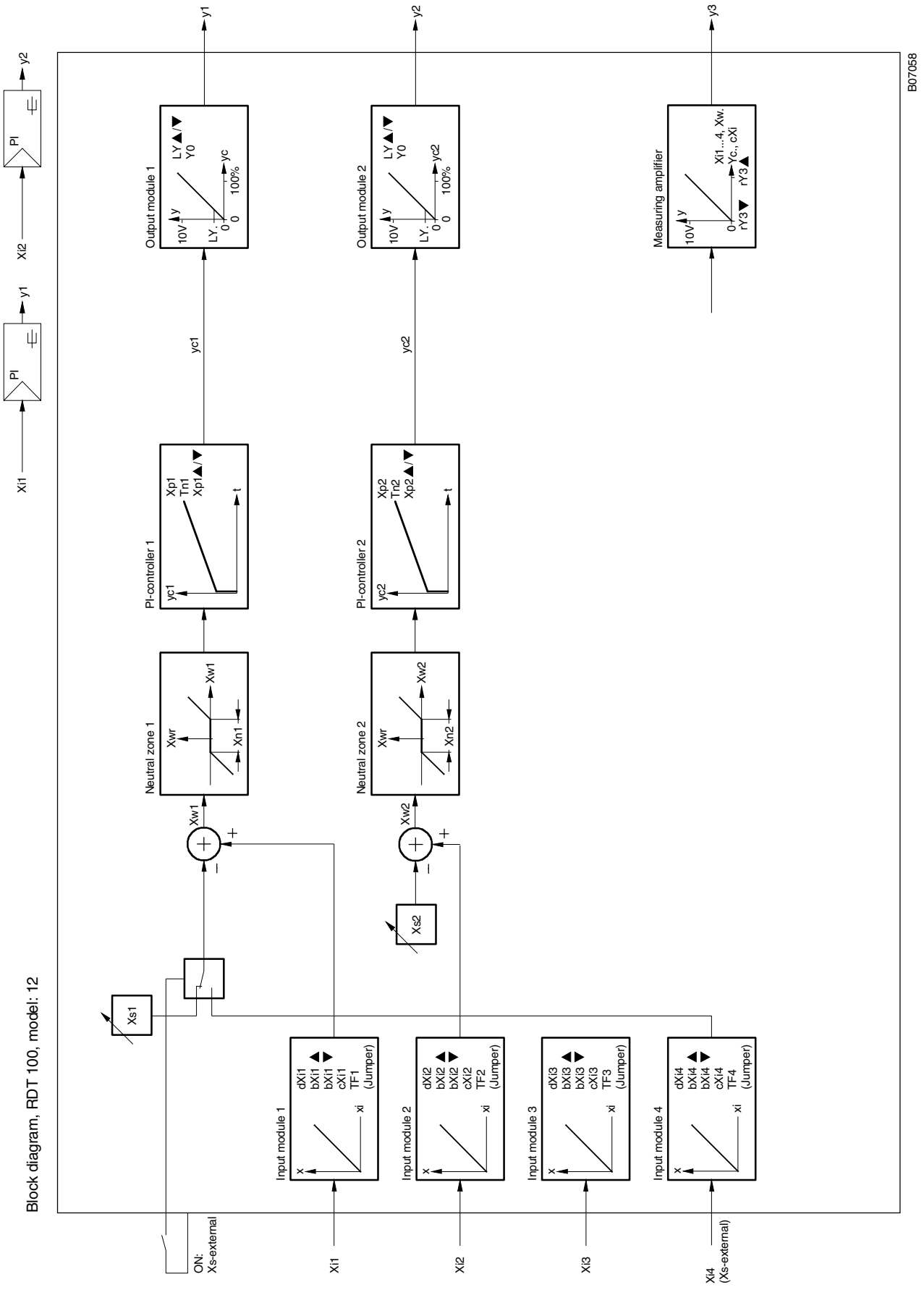
Block diagram RDT 100 Model: 10



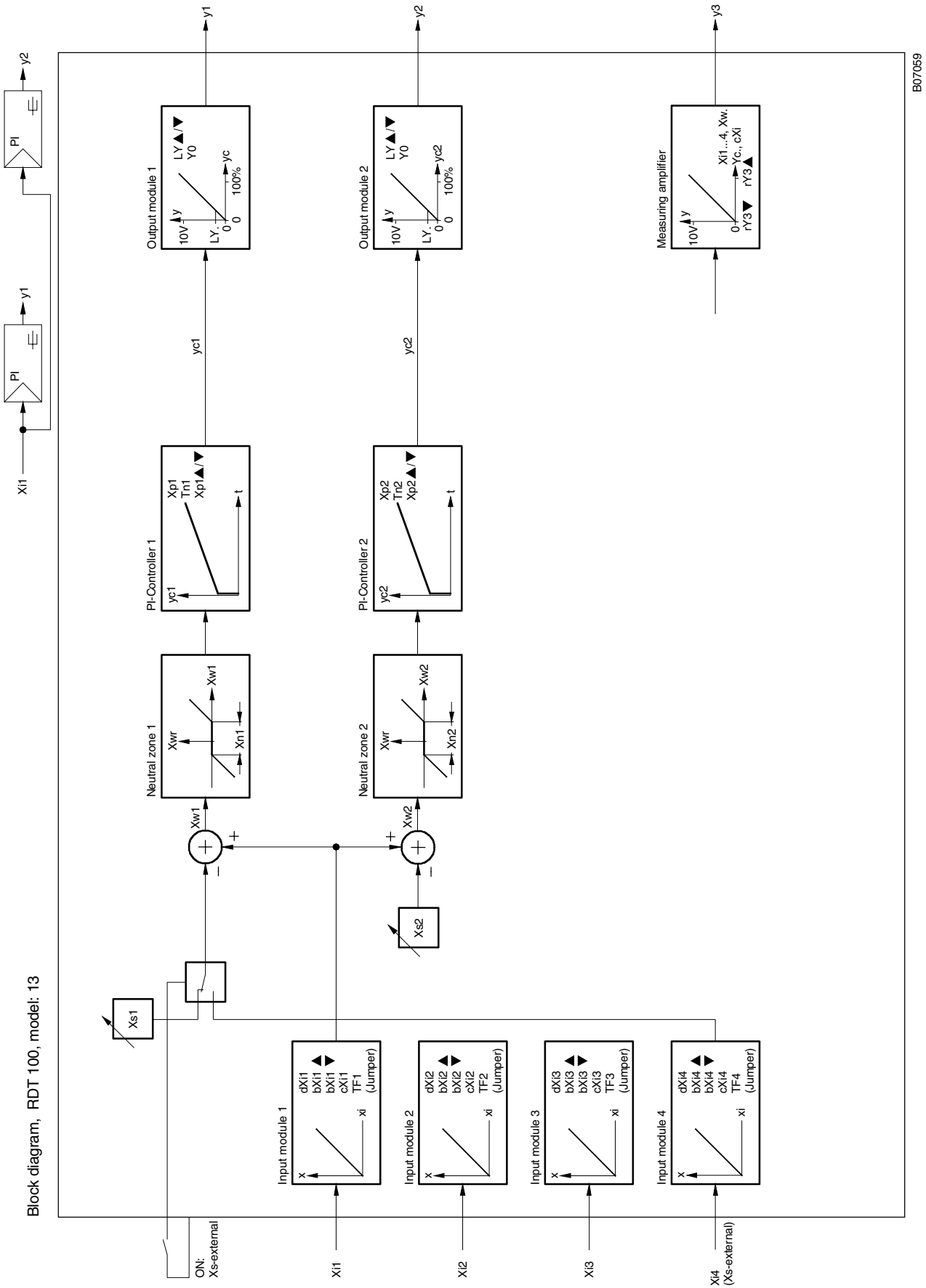
Block diagram RDT 100 Model: 11



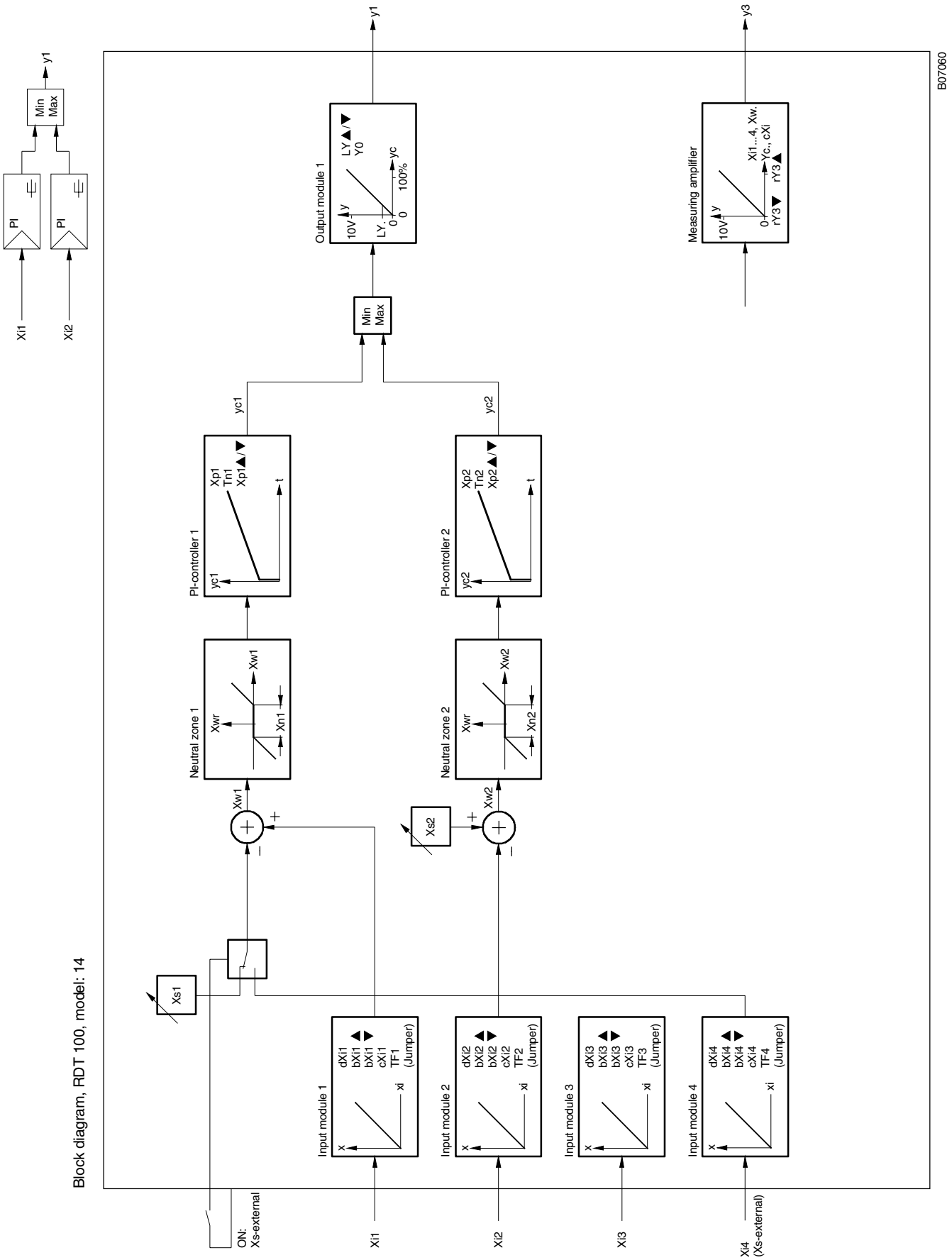
Block diagram RDT 100 Model: 12



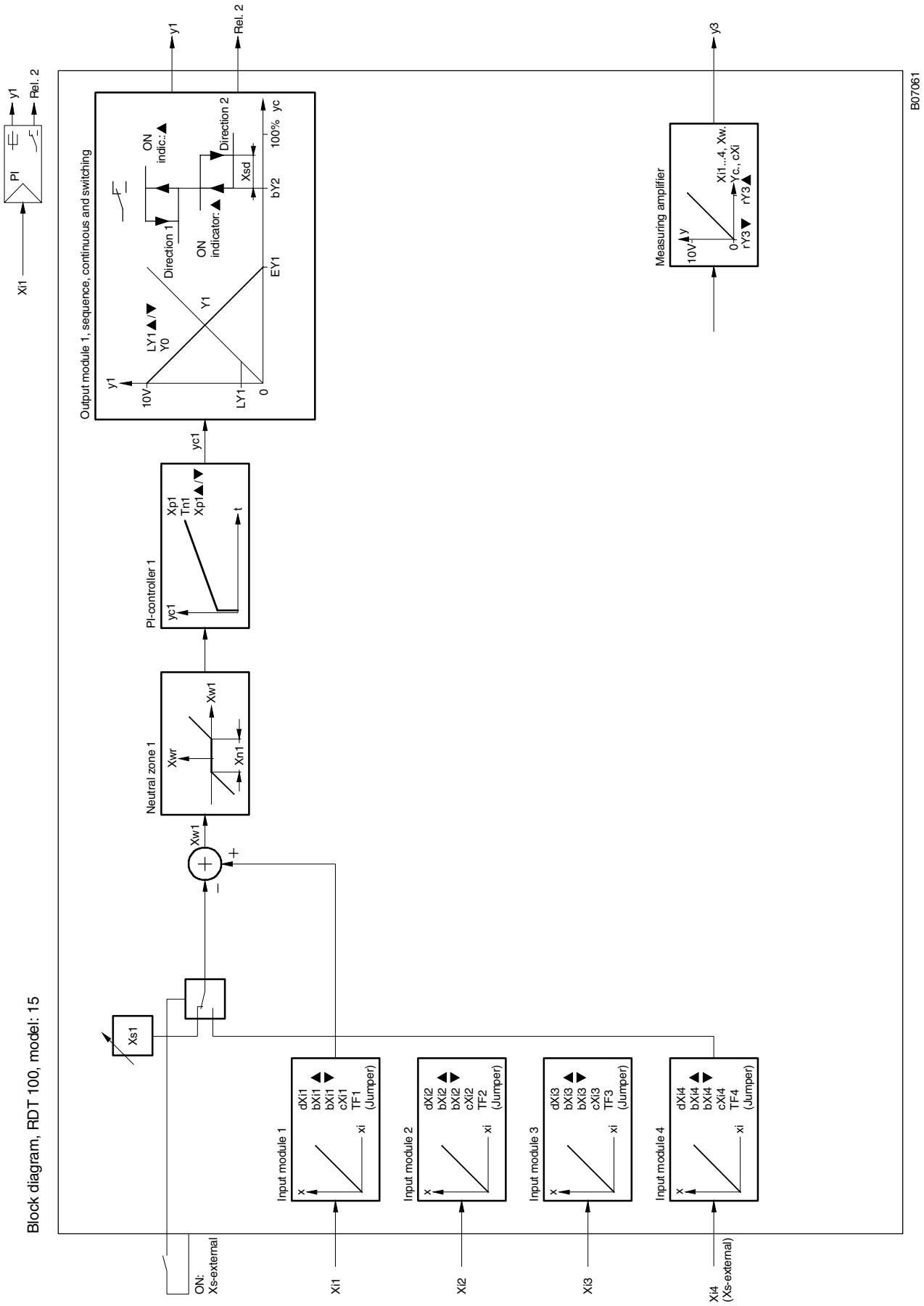
Block diagram RDT 100 Model: 13



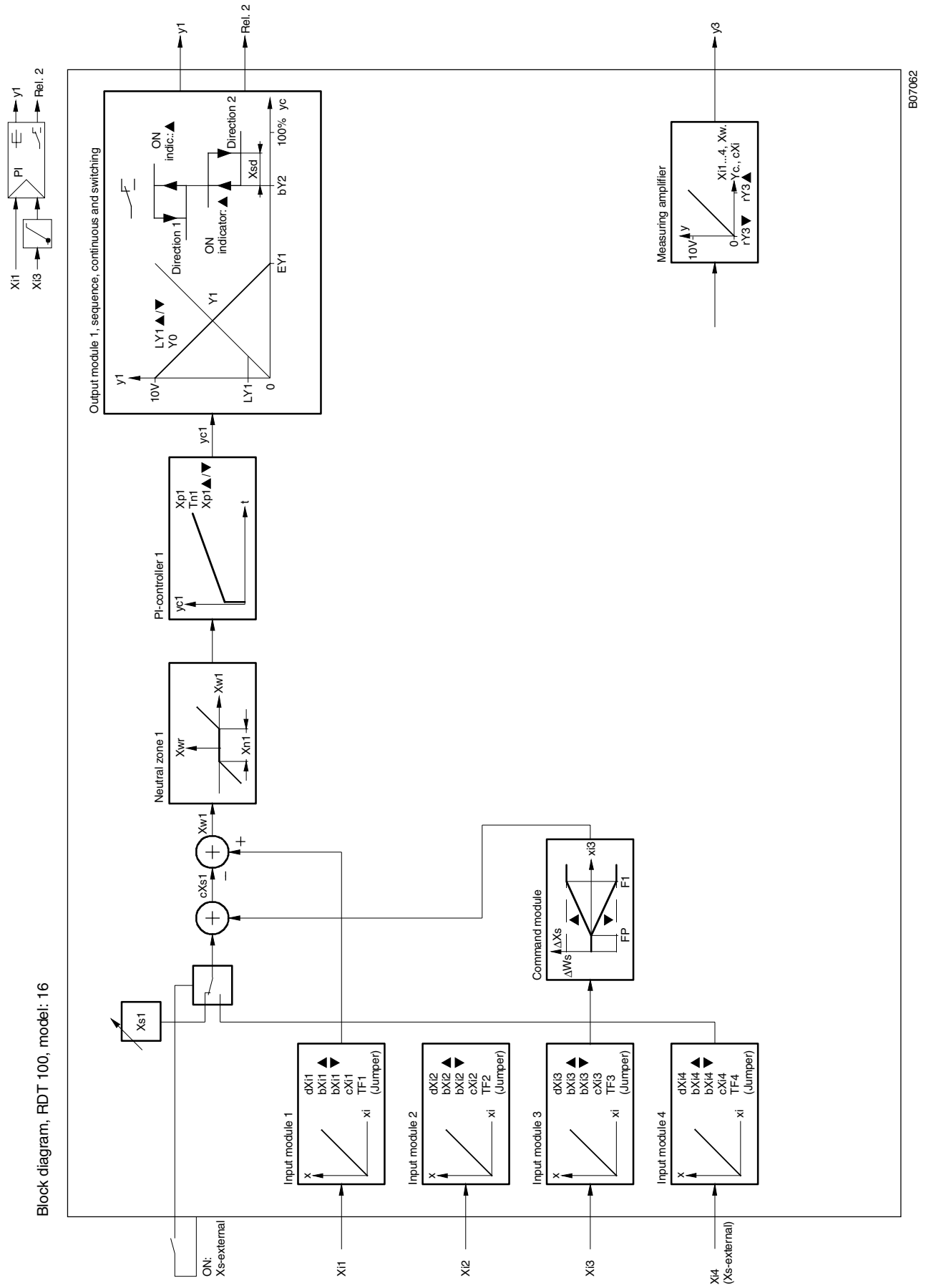
Block diagram RDT 100 Model: 14



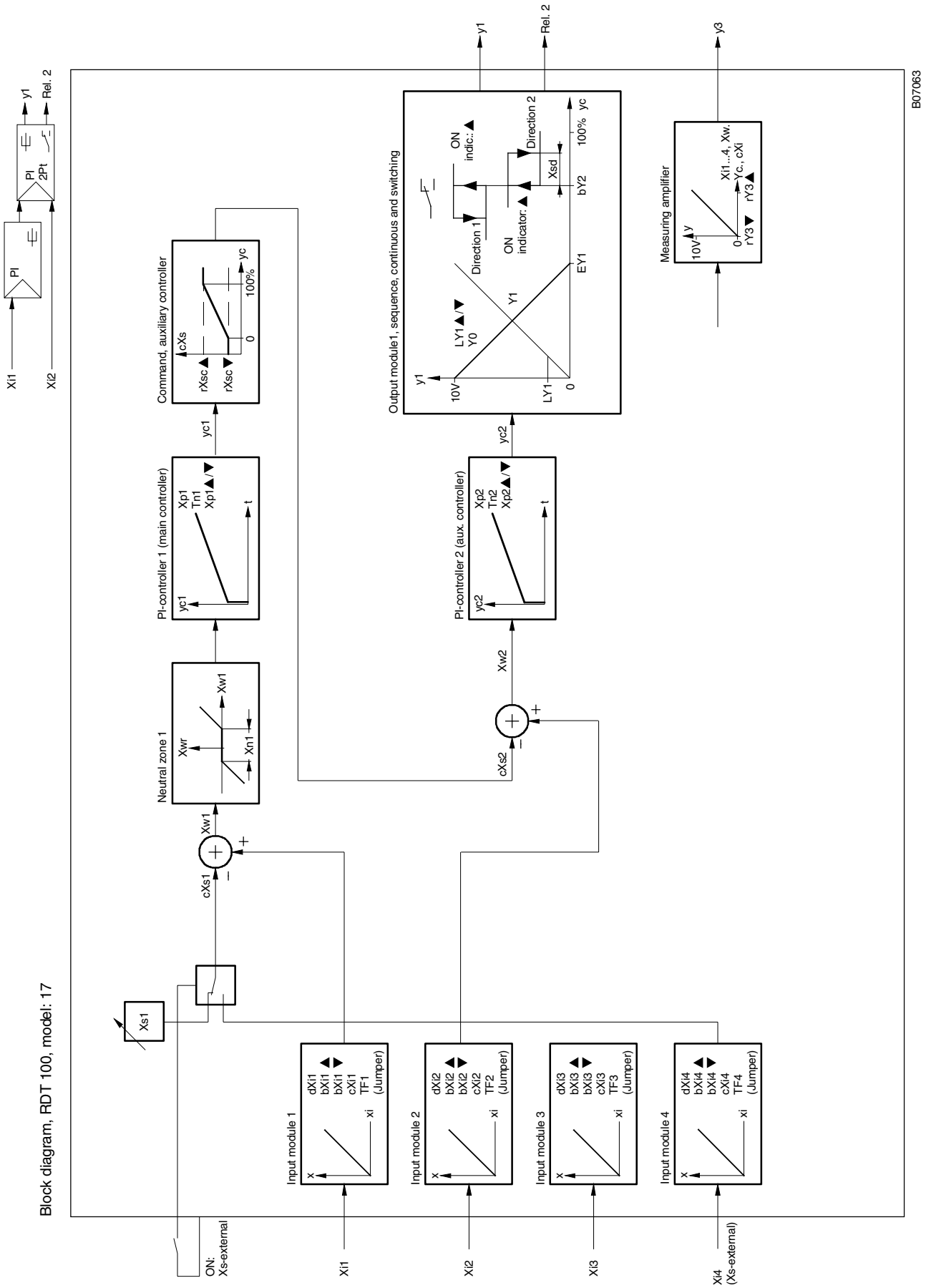
Block diagram RDT 100 Model: 15



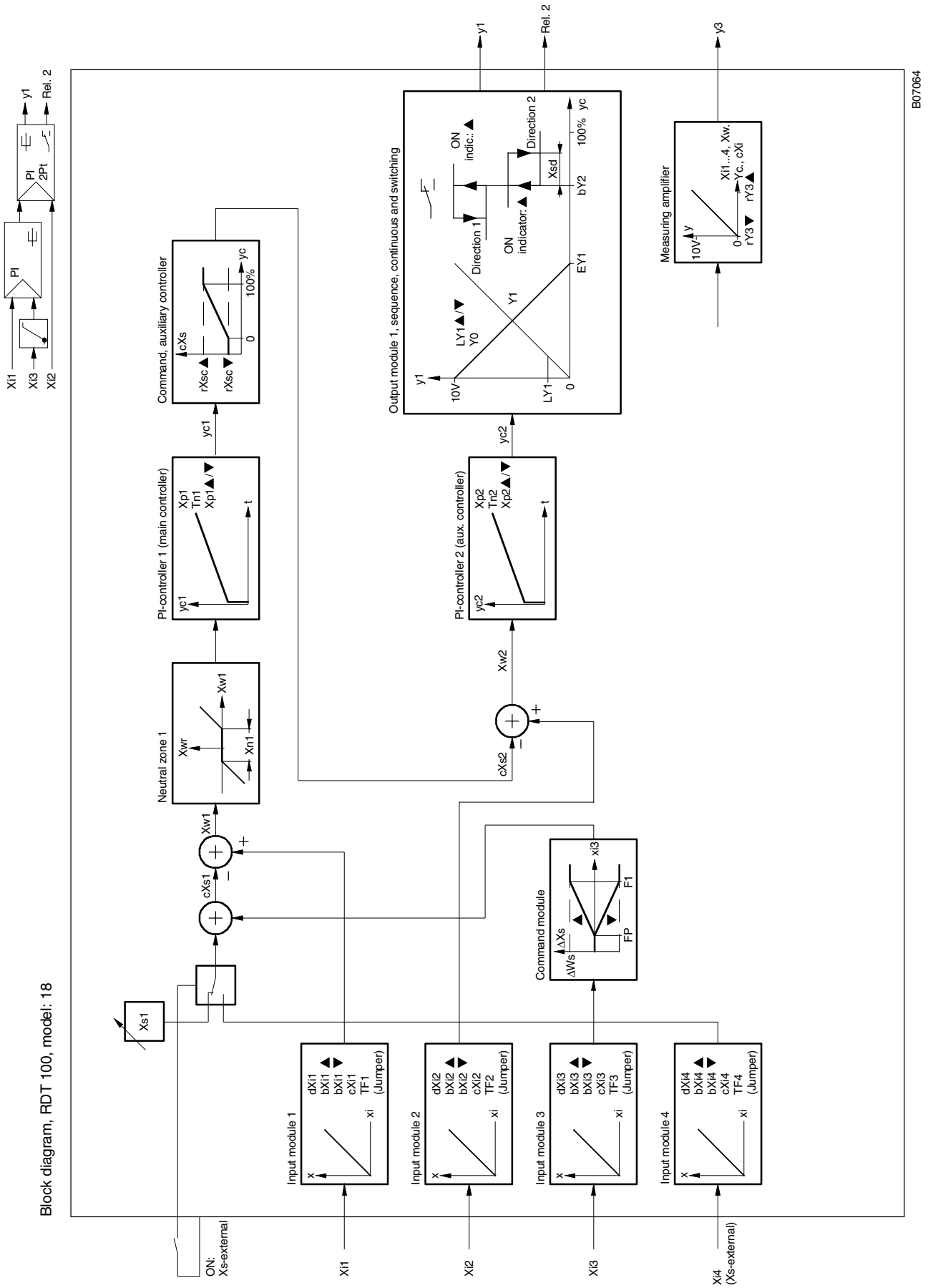
Block diagram RDT 100 Model: 16



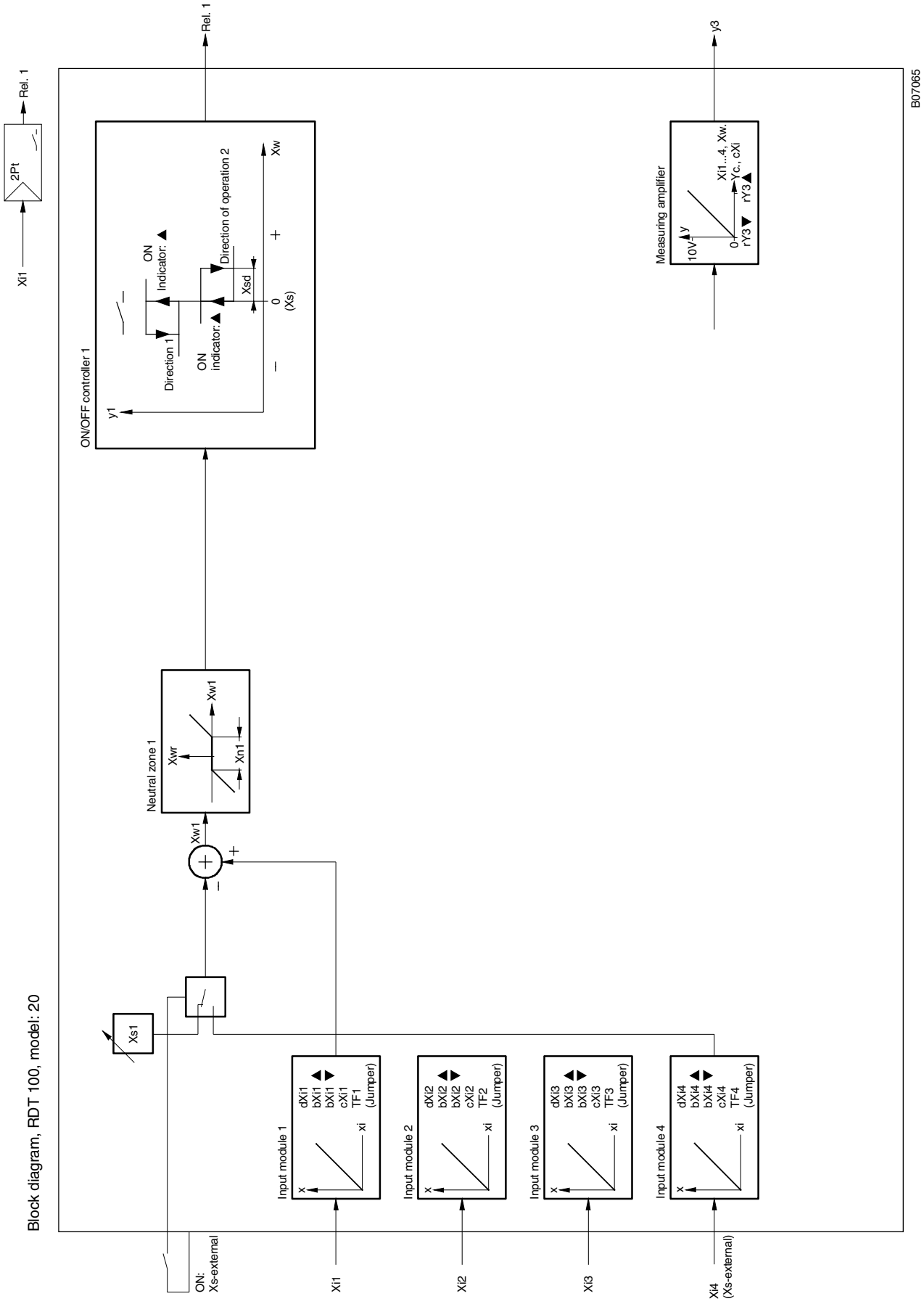
Block diagram RDT 100 Model: 17



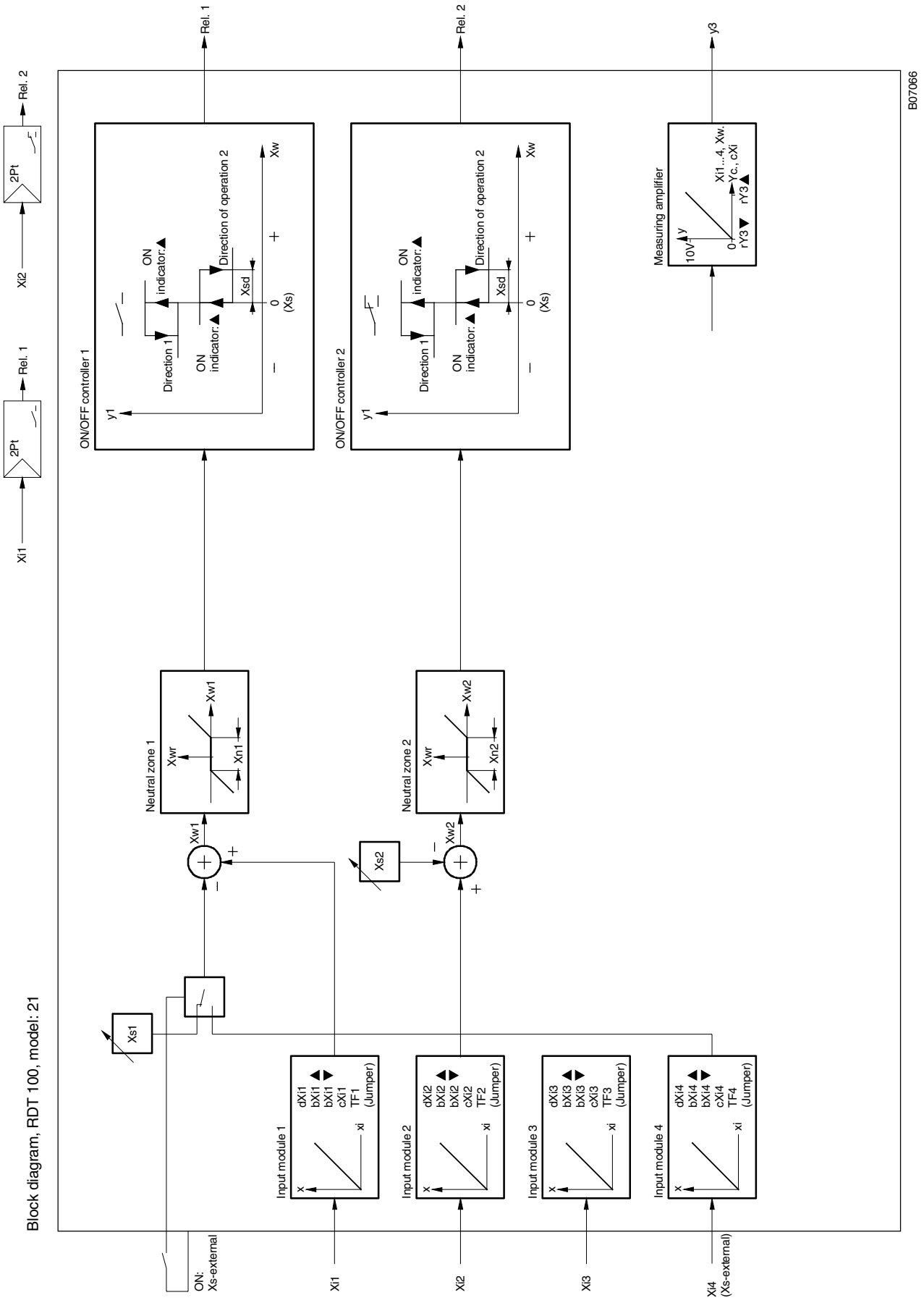
Block diagram RDT 100 Model: 18



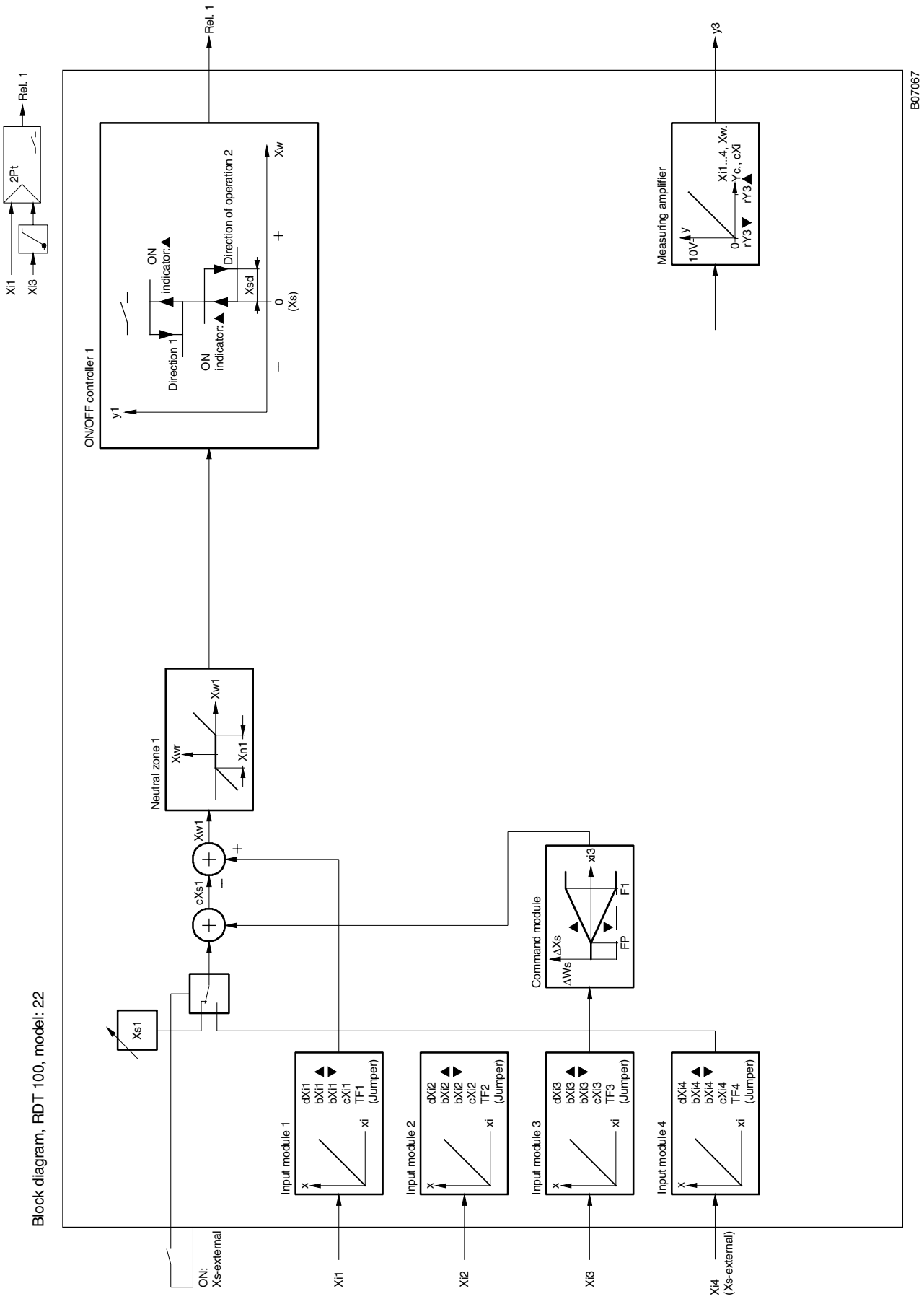
Block diagram RDT 100 Model: 20



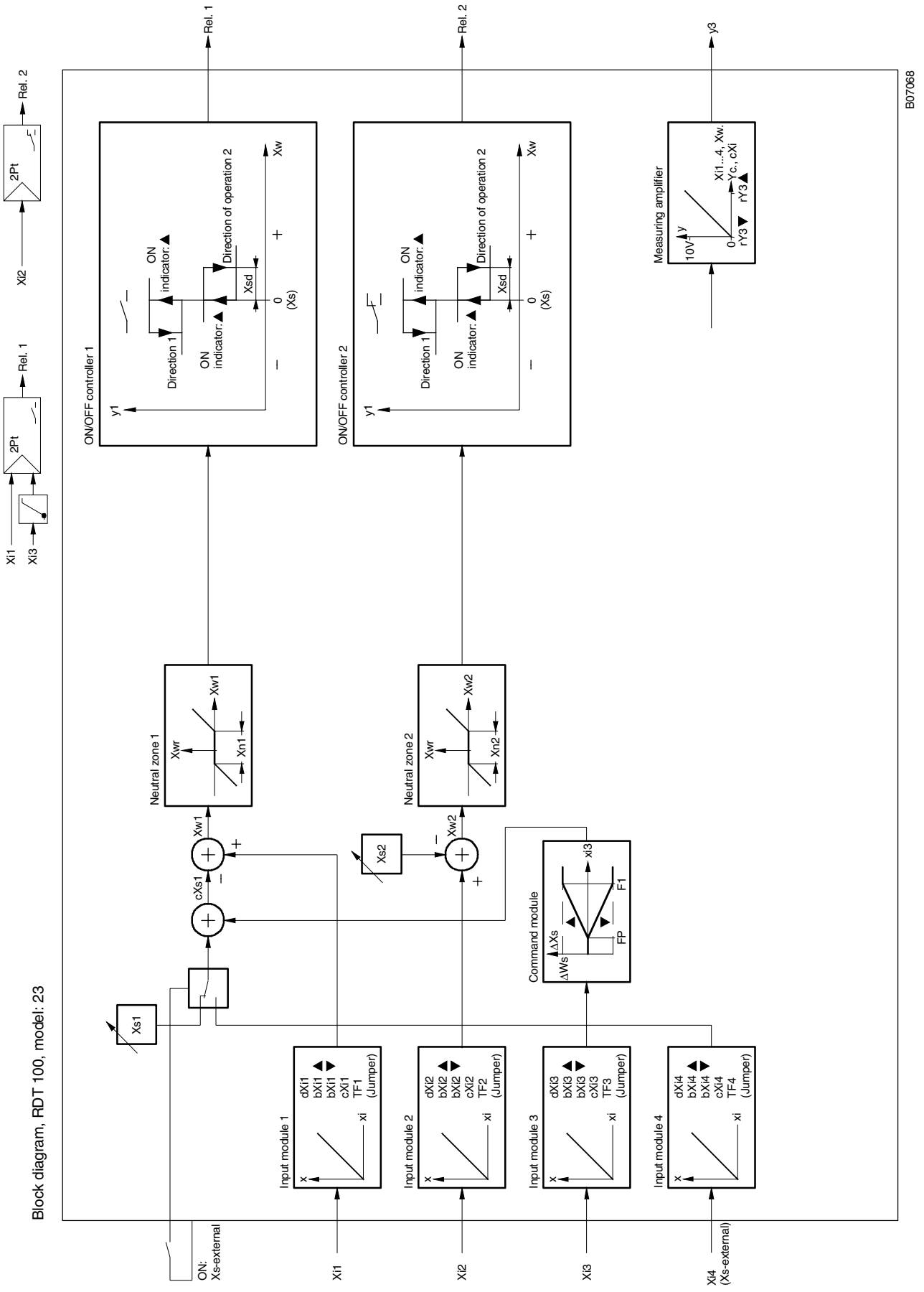
Block diagram RDT 100 Model: 21



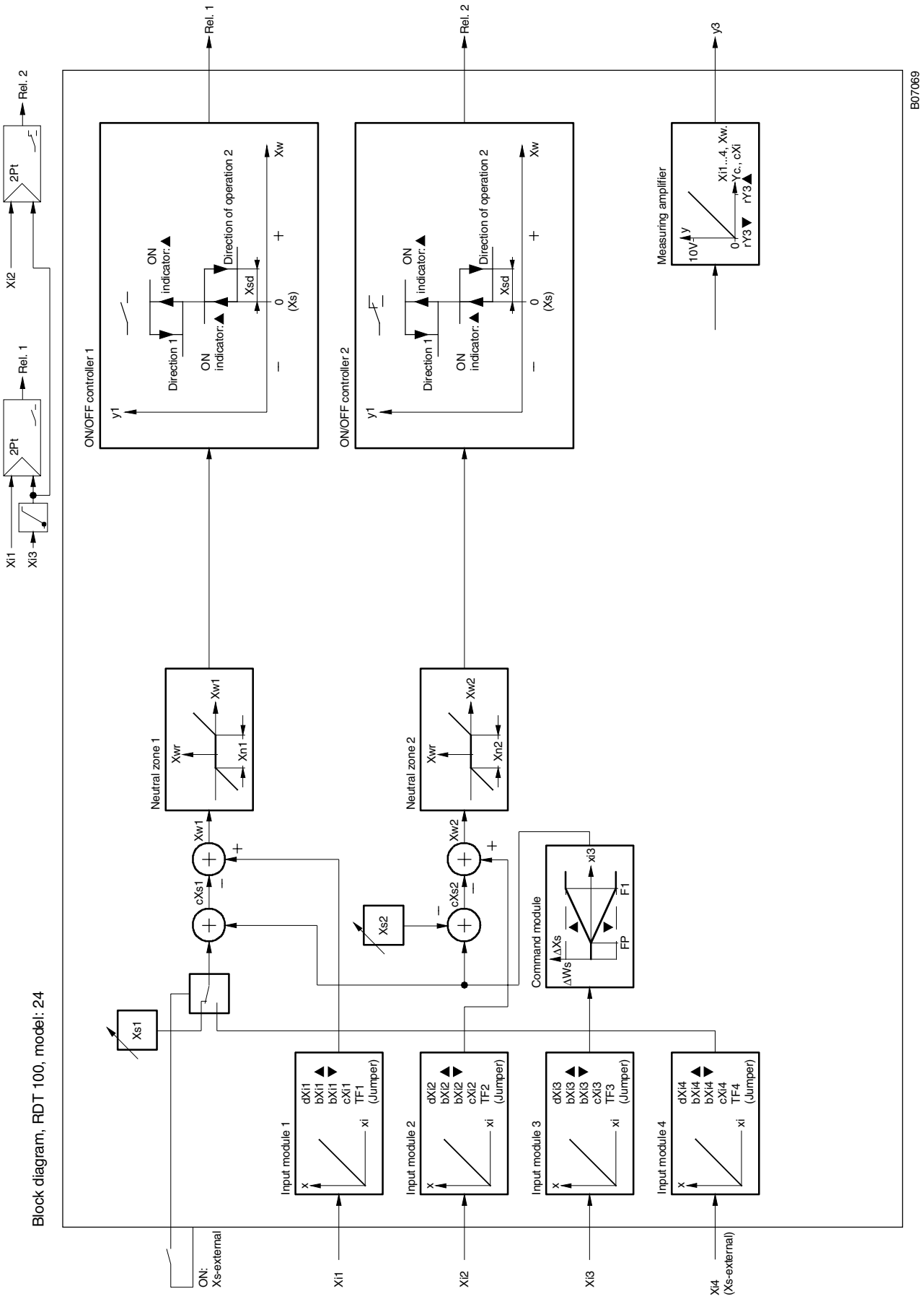
Block diagram RDT 100 Model: 22



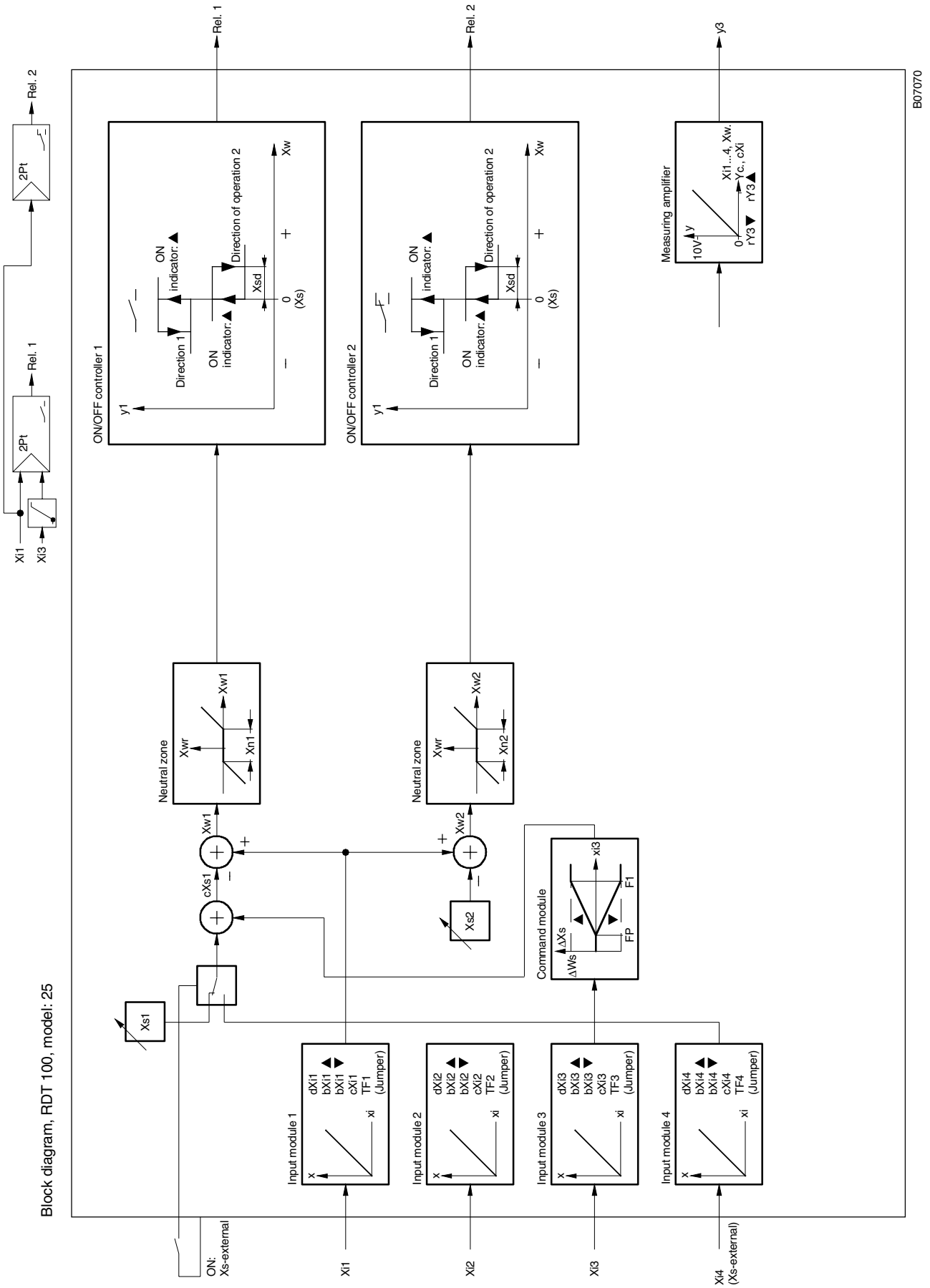
Block diagram RDT 100 Model: 23



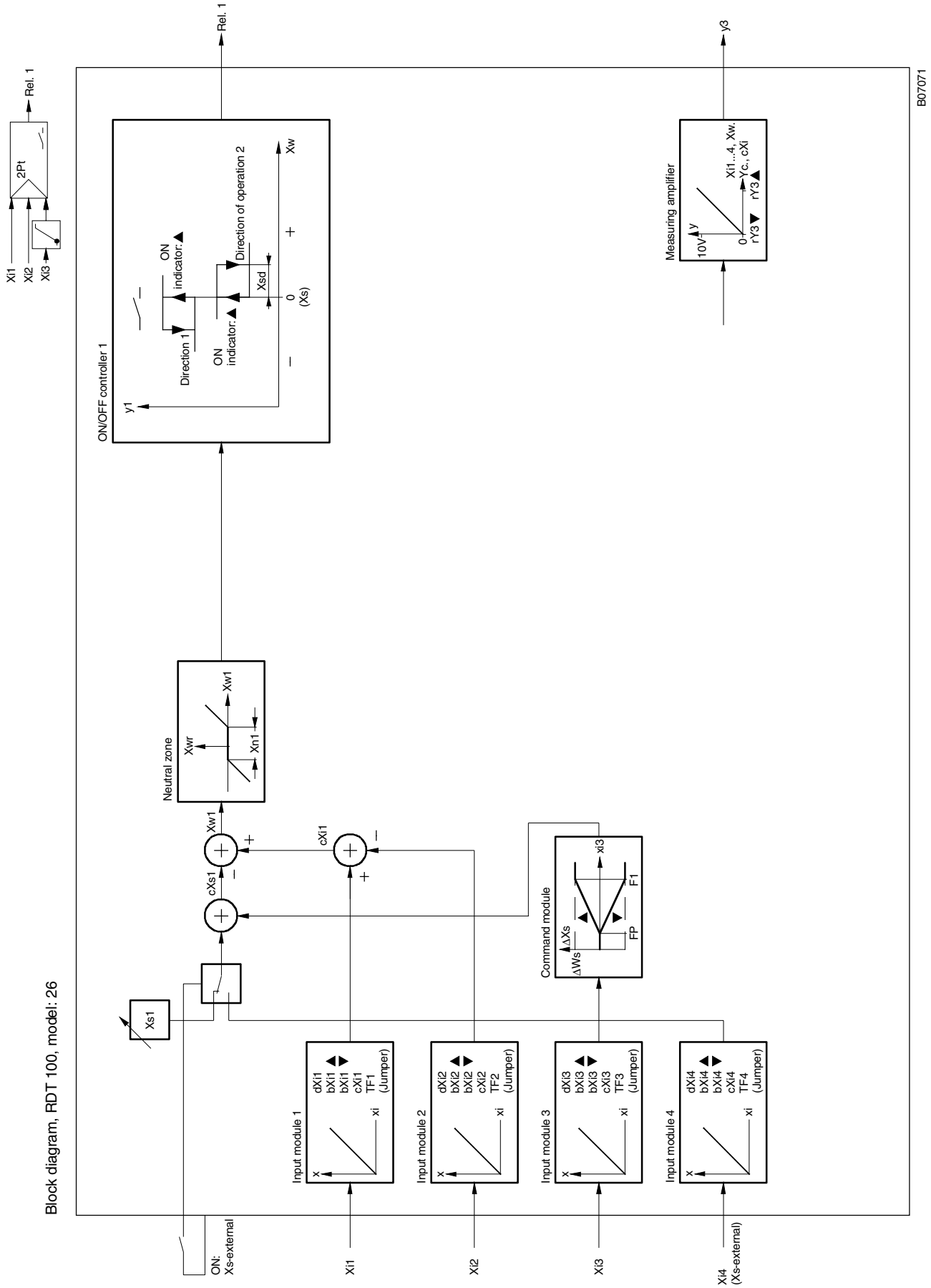
Block diagram RDT 100 Model: 24



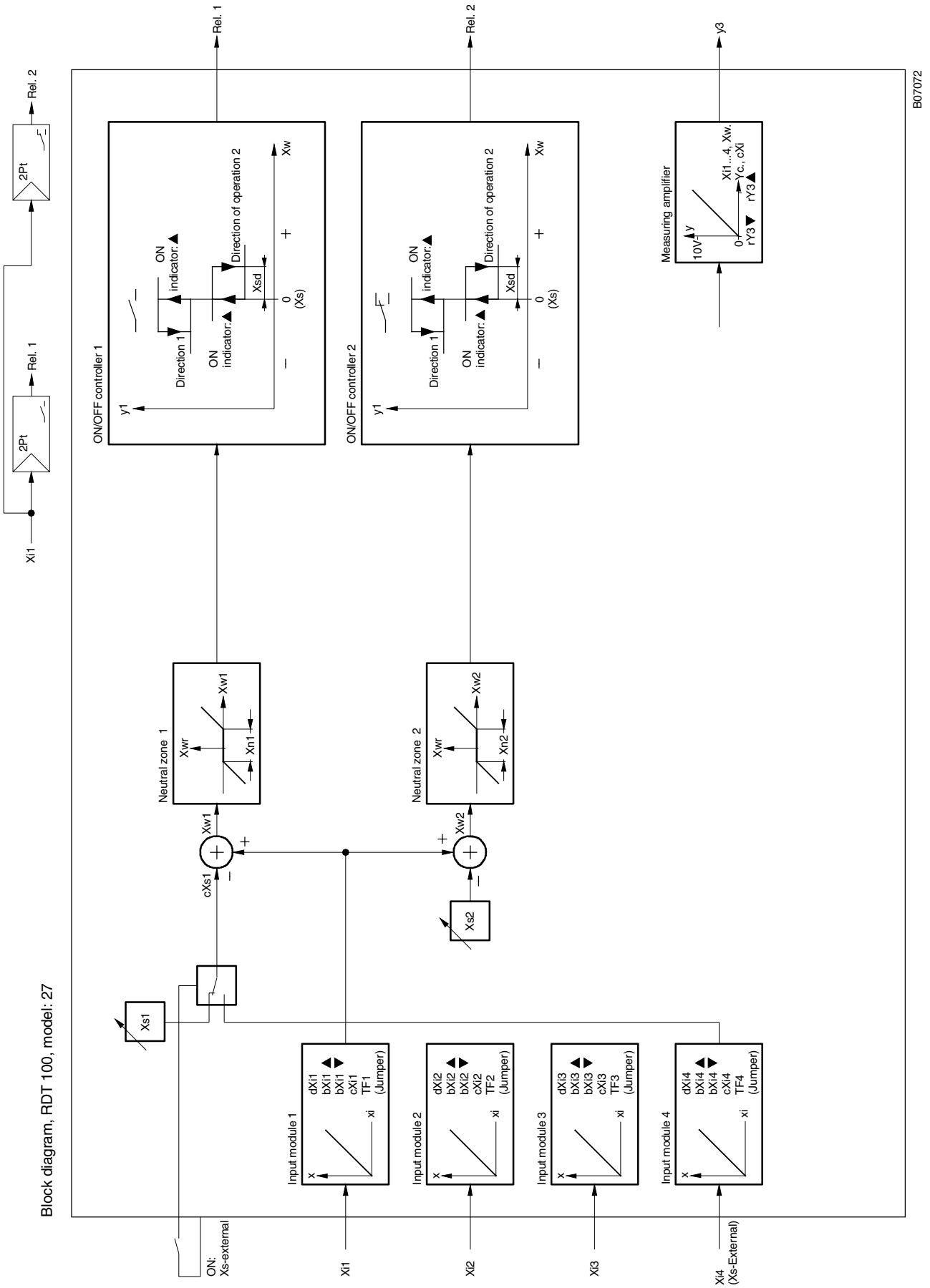
Block diagram RDT 100 Model: 25



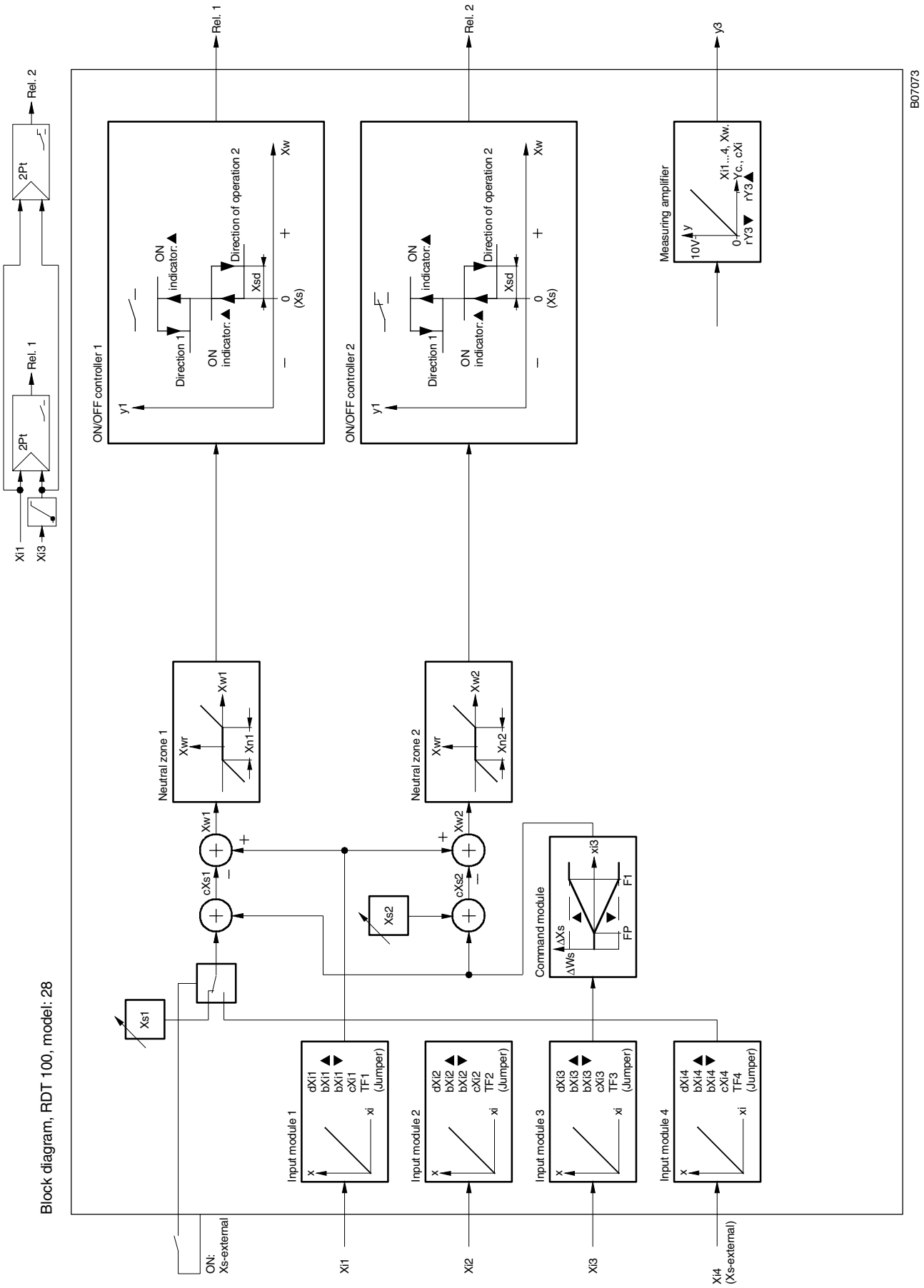
Block diagram RDT 100 Model: 26



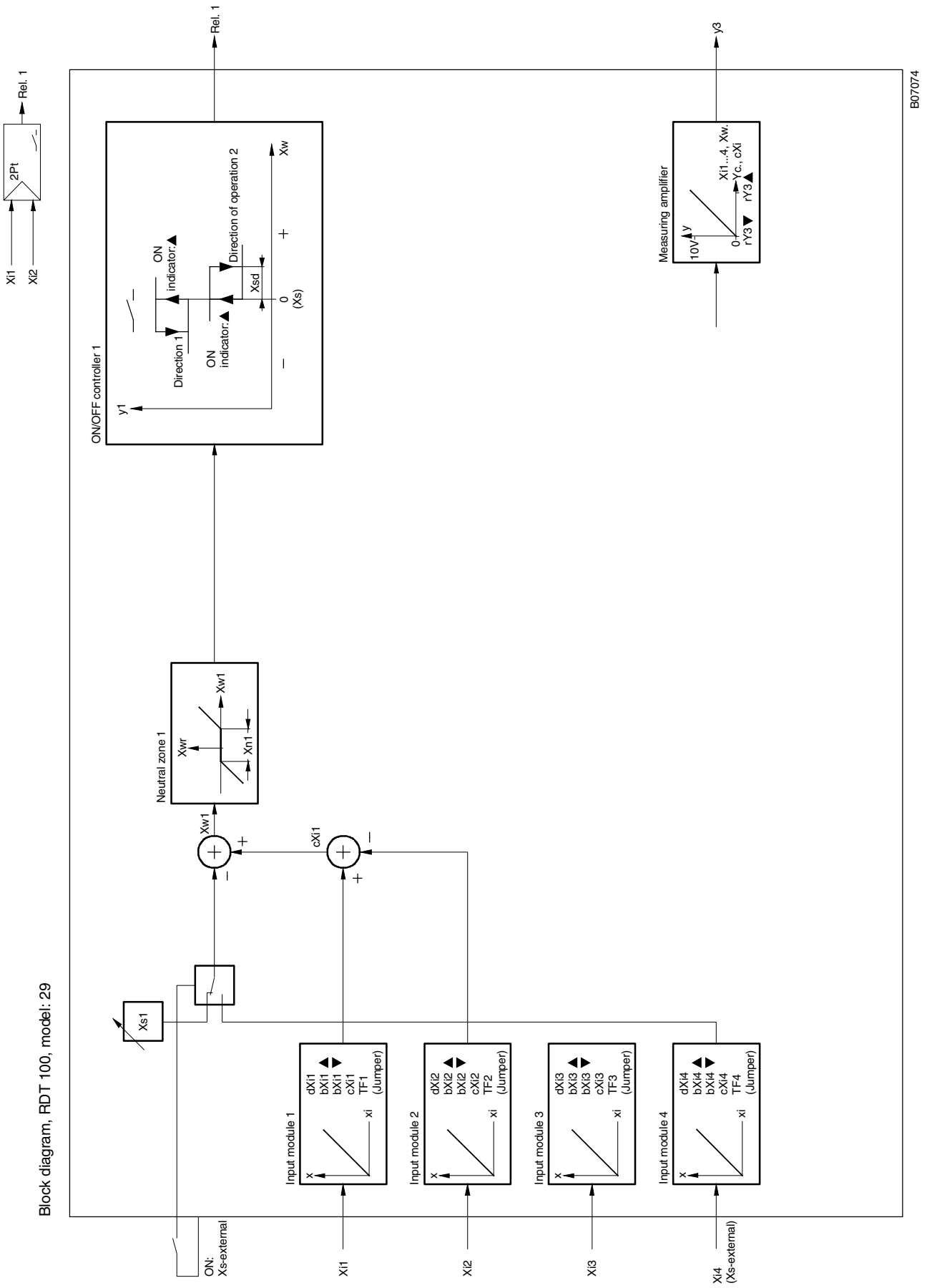
Block diagram RDT 100 Model: 27



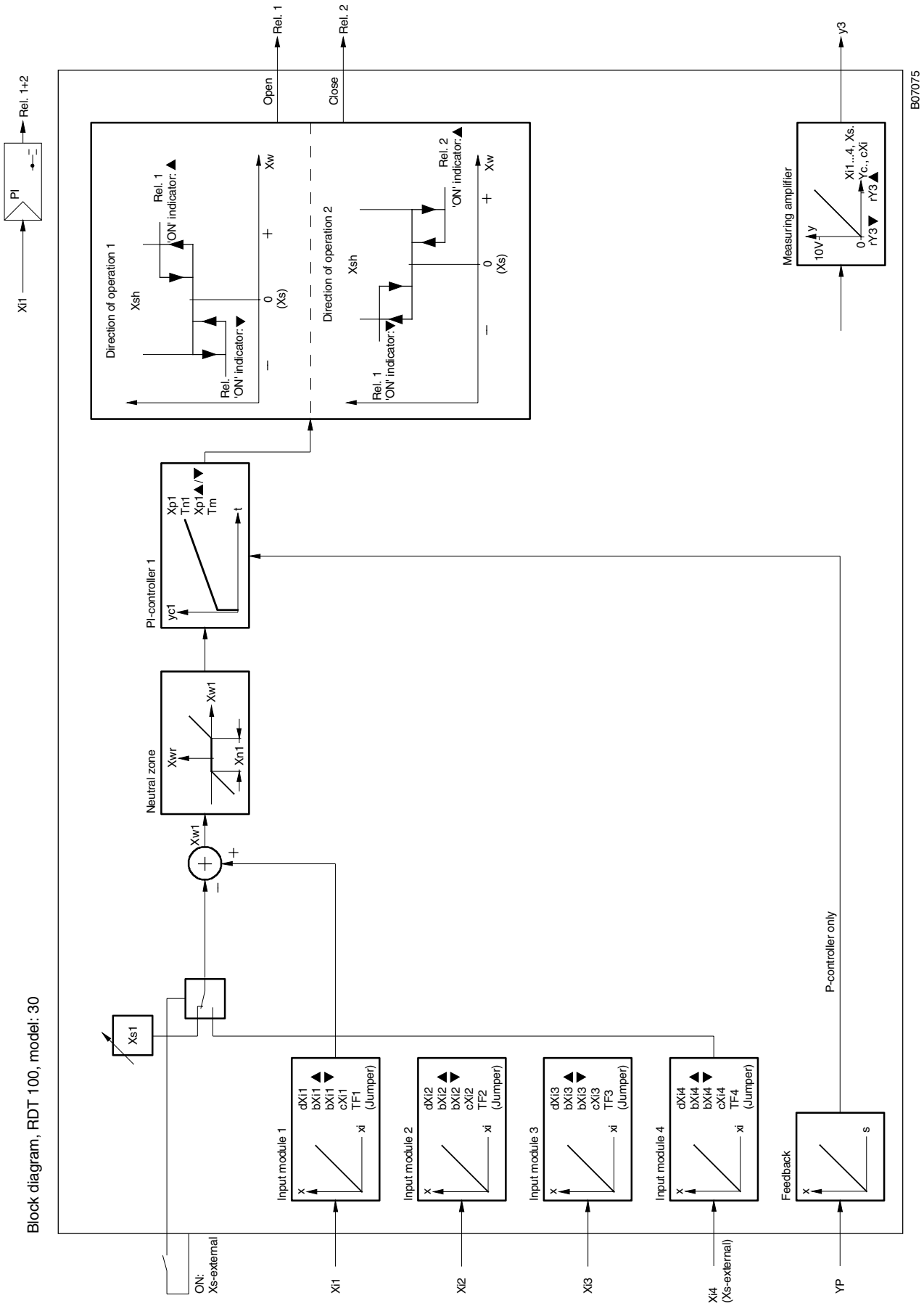
Block diagram RDT 100 Model: 28



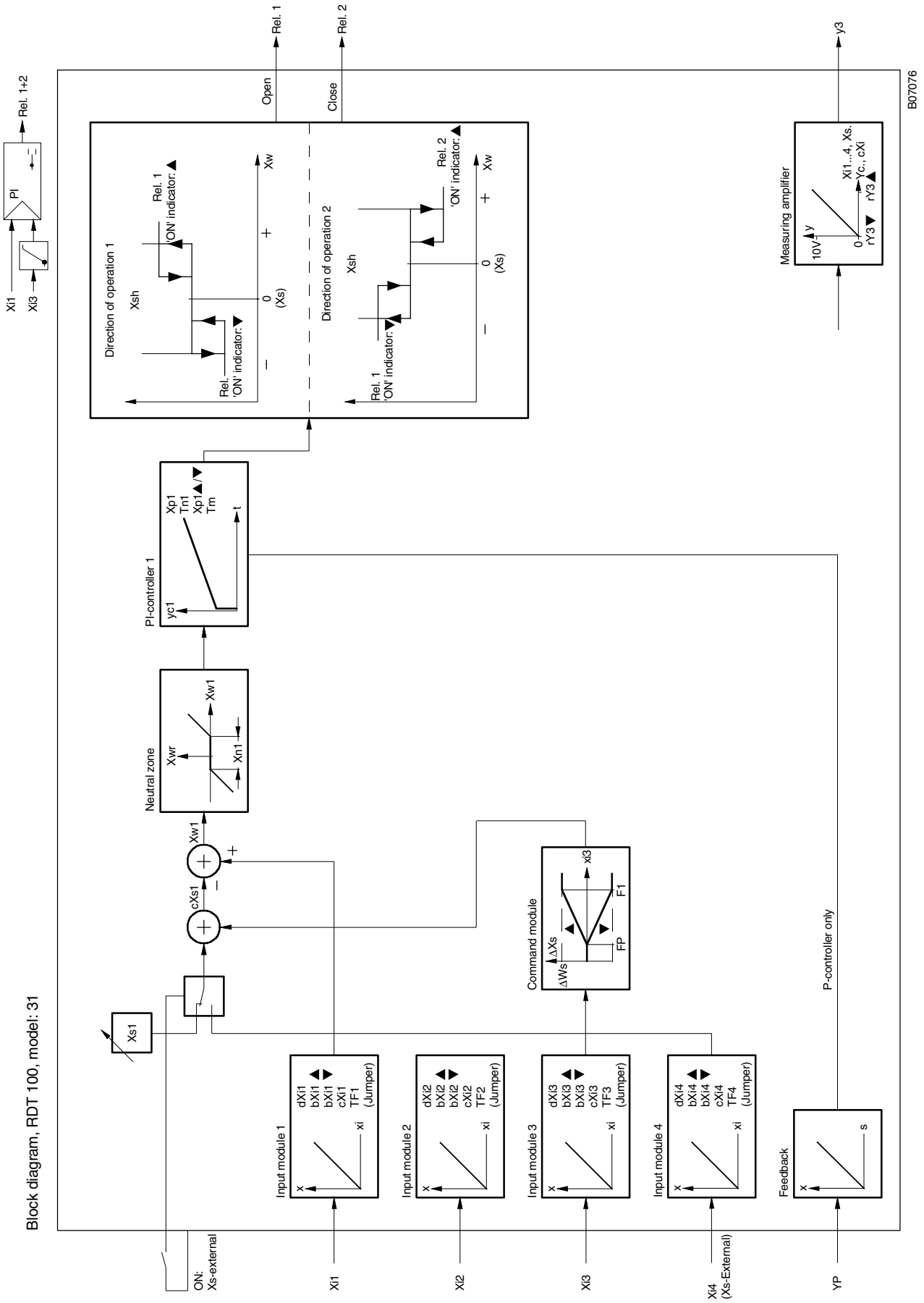
Block diagram RDT 100 Model: 29



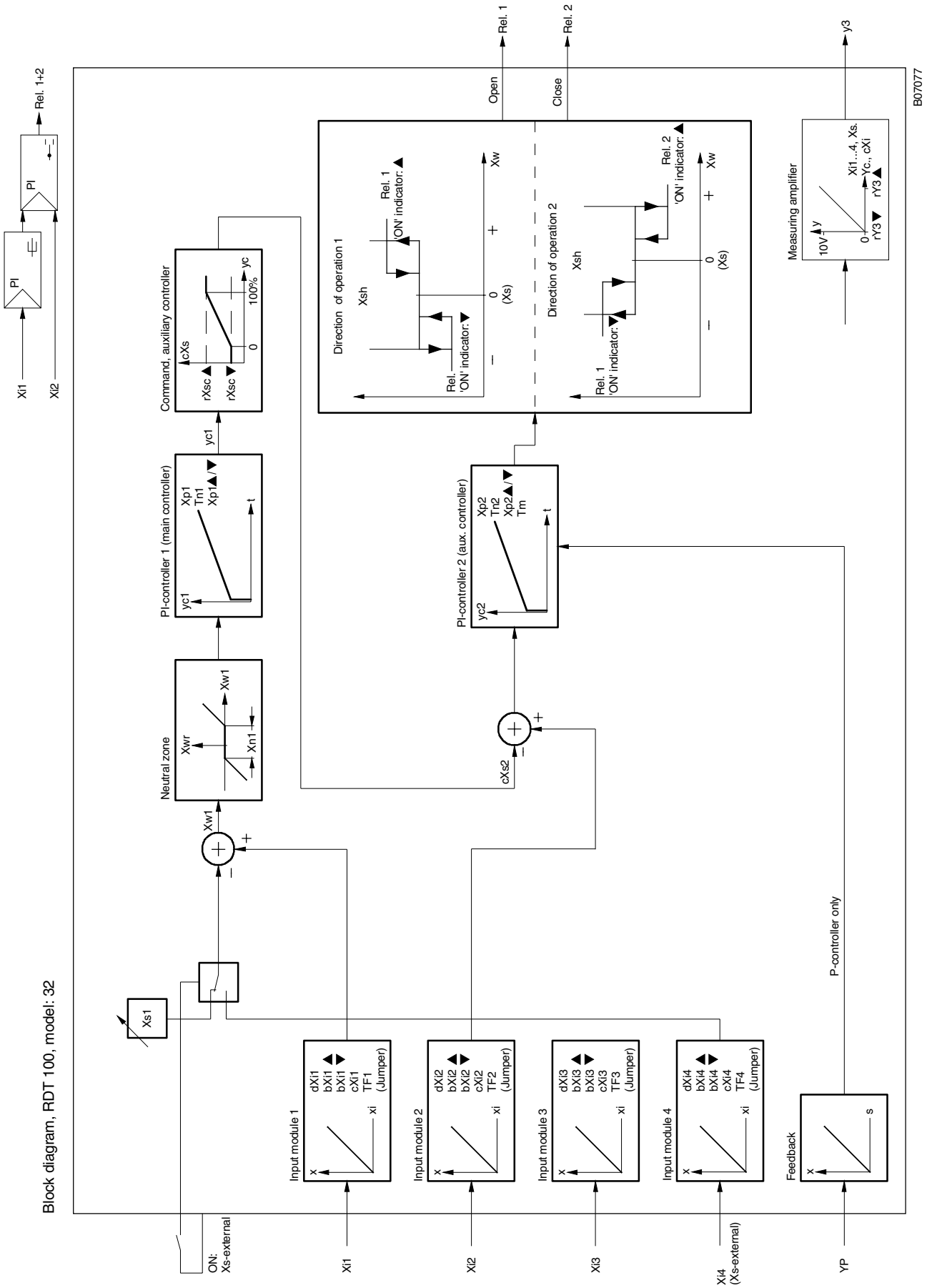
Block diagram RDT 100 Model: 30



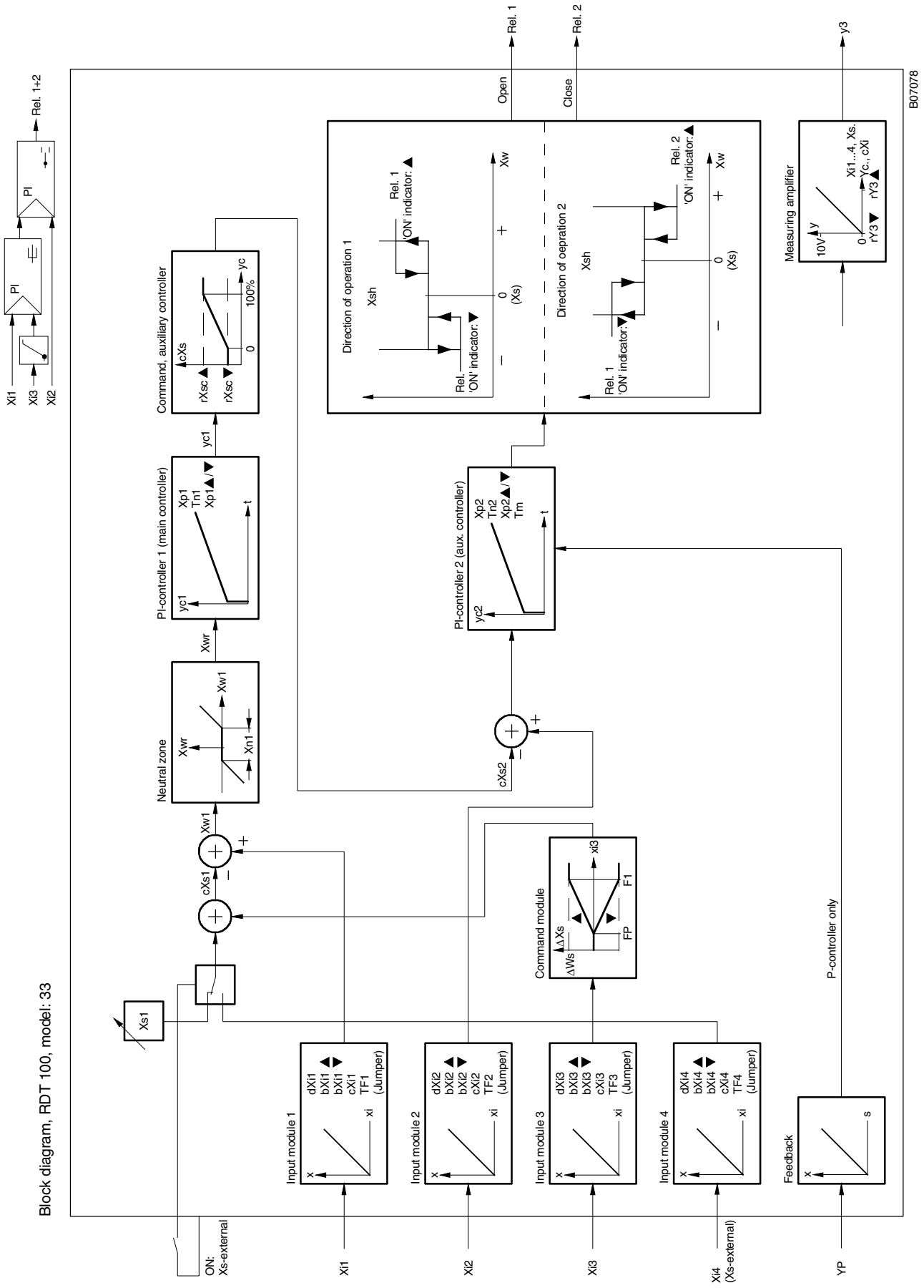
Block diagram RDT 100 Model: 31



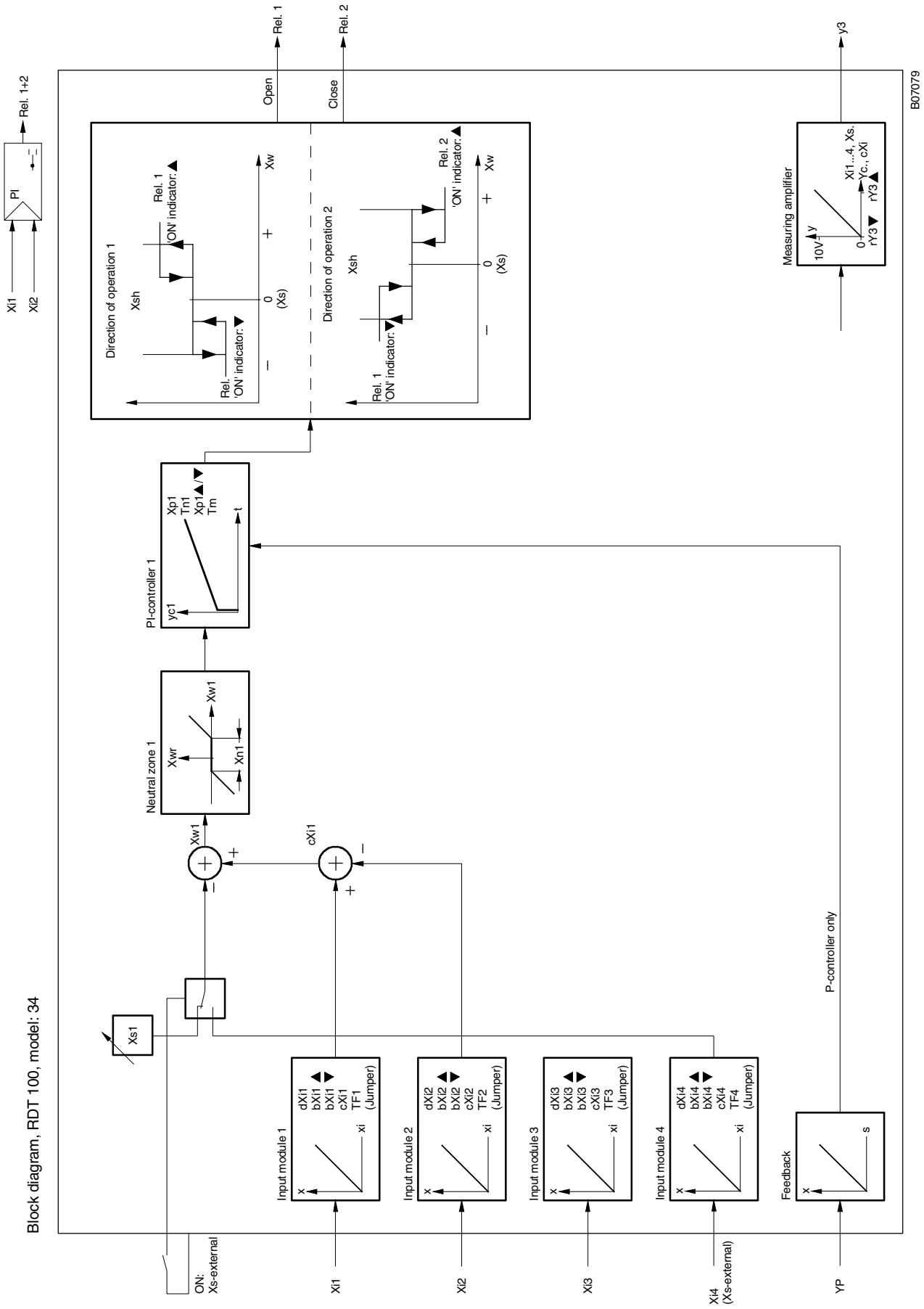
Block diagram RDT 100 Model: 32



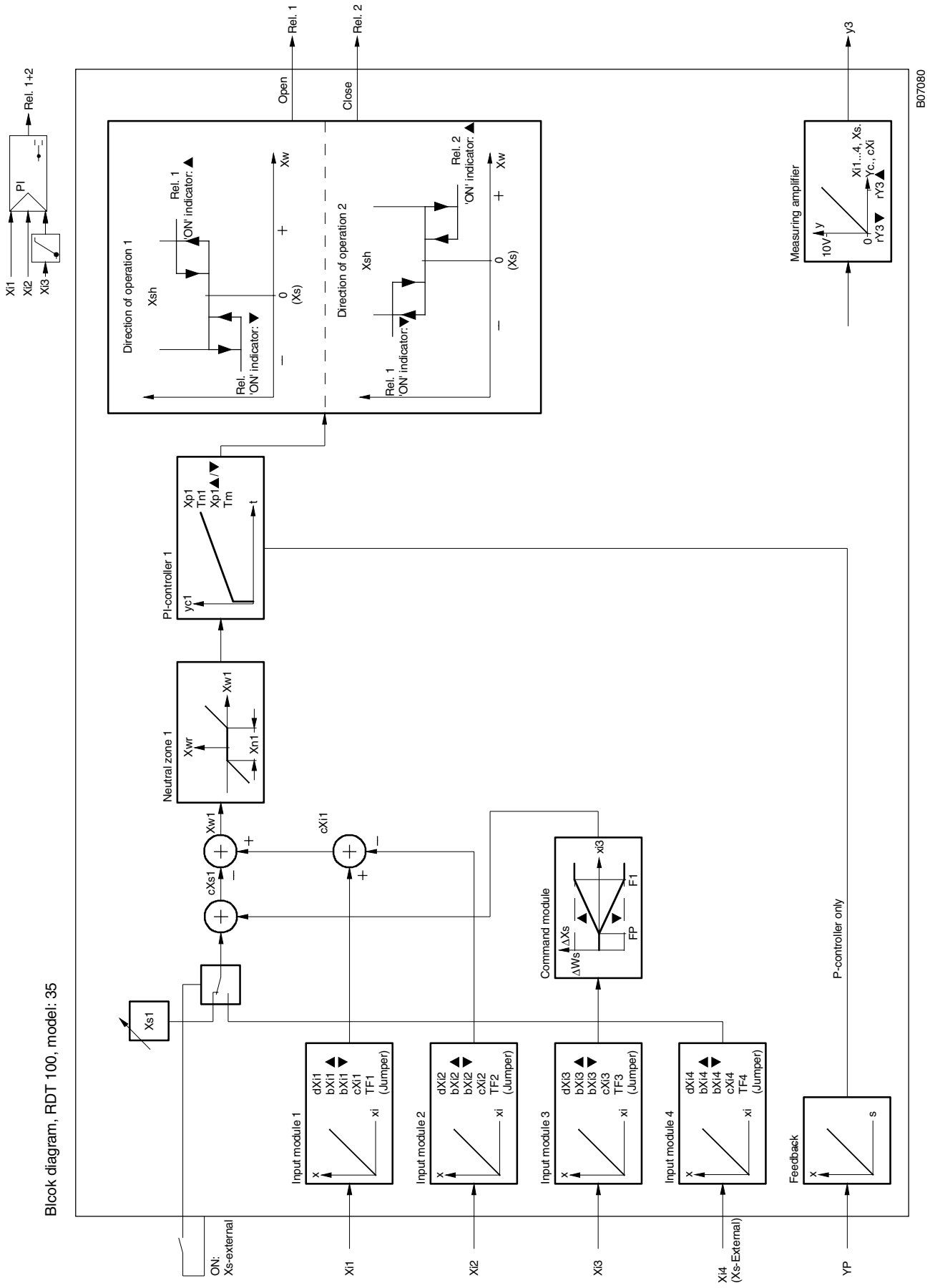
Block diagram RDT 100 Model: 33



Block diagram RDT 100 Model: 34



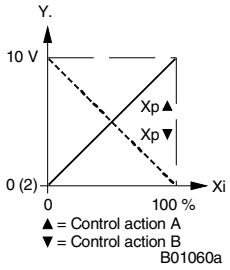
Block diagram RDT 100 Model: 35



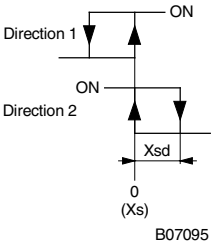
Blcok diagram, RDT 100, model: 35

Diagrams

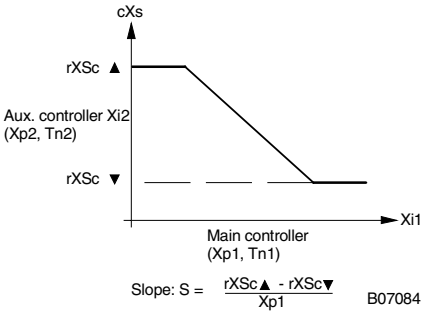
Control action



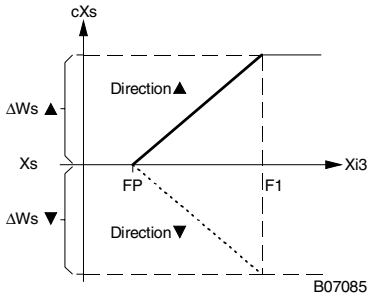
Direction of operation, ON/OFF controller



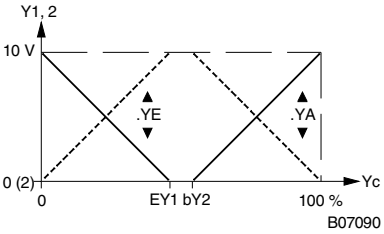
Cascade controller



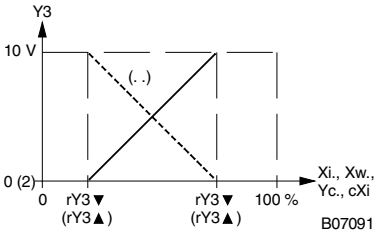
Command module



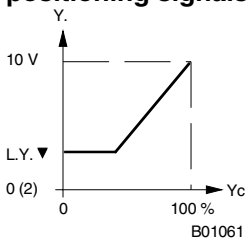
Dual sequence



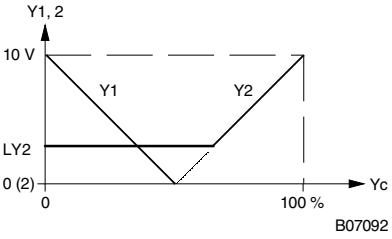
Measuring amplifier



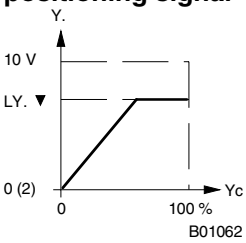
Minimum limitation of positioning signals



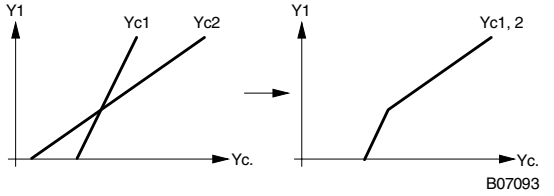
in dual sequences



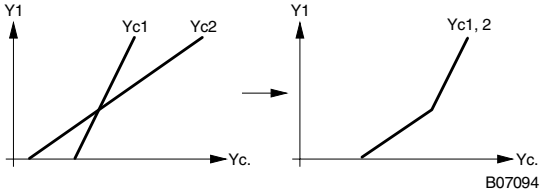
Maximum limitation of positioning signal



Minimum selection



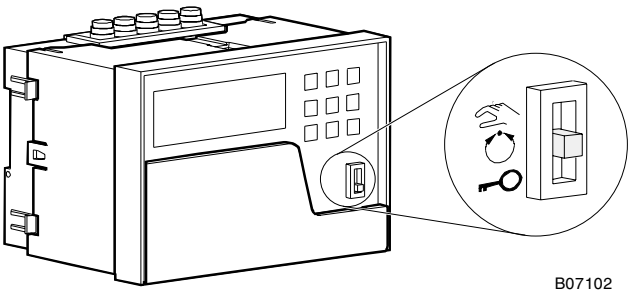
Maximum selection



List of parameters

Plant		Project no.	
Customer		Drawing no.	
Job no.		Memory no.	
Signature		Date	

Operating levels



B07102

	H (Manual)
	A (Automatic)
	S (Service)

Hardware settings (jumper at rear of unit)

Input	Ni 1000	0(4)...20 mA	0(2)...10 V	0...1 V Pot.-meter
Xi1	X			
Xi2	X			
Xi3	X			
Xi4			X	

Software/control Model all models

Code	Parameter	Level	Operating key	Default value	New value
VER	Software version	S	SERV		---
Model	Control model	S	SERV	0	

Setpoint range (applies for all setpoints)

Code	Parameter	Level	Operating key	Default value	New value
rXs ▲	Maximal value Xs	S	Xs	150,0°C	
rXs ▼	Minimal value Xs	S	Xs	-30,0°C	

Command module on the models:
2, 3, 6, 7, 10, 11, 16, 18, 22, 23, 24, 25, 26, 28, 31, 33, 35

Code	Parameter	Level	Operating key	Default value	New value
ΔWs	Control action ▼▲	S	PAR	▲	
FP	Start of shift	H	PAR	-30,0°C	
F1	End of shift	H	PAR	150,0°C	
ΔWs	Amount of shift	H	PAR	0,0°C	

Measured-value inputs

Code	Parameter	Level	Operating key	Default value	New value
Input Xi1					
cXi1	Type of transmitter	S	Xi	1	
dXi1	Unit of measurement	S	Xi	°C	
bXi1 ▲	End of range	S	Xi	150,0°C	
bXi1 ▼	Start of range	S	Xi	-30,0°C	
Xm1	Adjustment	S	Xi	--	
OF1	Offset value	S	Xi	--	
TF1	Filter time constant	S	Xi	2s	
Input Xi2					
cXi2	Type of transmitter	S	Xi	1	
dXi2	Unit of measurement	S	Xi	°C	
bXi2 ▲	End of range	S	Xi	150,0°C	
bXi2 ▼	Start of range	S	Xi	-30,0°C	
Xm2	Adjustment	S	Xi	--	
OF2	Offset value	S	Xi	--	
TF2	Filter time constant	S	Xi	2s	
Input Xi3					
cXi3	Type of transmitter	S	Xi	1	
dXi3	Unit of measurement	S	Xi	°C	
bXi3 ▲	End of range	S	Xi	150,0°C	
bXi3 ▼	Start of range	S	Xi	-30,0°C	
Xm3	Adjustment	S	Xi	--	
OF3	Offset value	S	Xi	--	
TF3	Filter time constant	S	Xi	2s	
Input Xi4					
cXi4	Type of transmitter	S	Xi	2	
dXi4	Unit of measurement	S	Xi	°C	
bXi4 ▲	End of range	S	Xi	150,0°C	
bXi4 ▼	Start of range	S	Xi	-30,0°C	
Xm4	Adjustment	S	Xi	--	
OF4	Offset value	S	Xi	--	
TF4	Filter time constant	S	Xi	2s	

Controller					
Code	Parameter	Level	Operating key	Default value	New value

Controller 1

as a continuous controller for the models: 0...18, 31, 33					
Xn1	Neutral zone	S	Xw	0,0°C	
Xp1	Control action Xp1 ▲▼	S	PAR	▼	
Xs1	Setpoint 1	H	Xs	20,0°C	
Xp1	Proportional band	H	PAR	10,0°C	
Tn1	Integral action time	H	PAR	0s	
as an ON/OFF controller for the models: 20...29					
Xn1	Neutral zone	S	Xw	0,0°C	
W1	Dir. of operation ▲▼	S	PAR	▼	
Xs1	Setpoint 1	H	Xs	20,0°C	
Xsd1	Switching difference	H	PAR	2,0°C	
as a 3-point controller for the models: 30, 31, 34, 35					
Xn1	Neutral zone	S	Xw	0,0°C	
Xp1	Dir. of operation Xp1 ▲▼	S	PAR	▼	
Tm	Running time of drive	S	Y	120s	
Xs1	Setpoint 1	H	Xs	20,0°C	
Xp1	Proportional band	H	PAR	10,0°C	
Tn1	Integral action time	H	PAR	0s	
Xsh	Switching range	H	PAR	2,0°C	

Controller 2

as a continuous controller for the models: 12, 13, 14, 25					
Xn2	Neutral zone	S	Xw	0,0°C	
Xp2	Control action Xp2 ▲▼	S	PAR	▼	
Xs2	Setpoint 2	H	Xs	20,0°C	
Xp2	Proportional band	H	PAR	10,0°C	
Tn2	Integral action time	H	PAR	0s	
as an ON/OFF controller for the models: 21, 23, 24, 27, 28					
Xn2	Neutral zone	S	Xw	0,0°C	
W2	Dir. of operation ▲▼	S	PAR	▼	
Xs2	Setpoint 2	H	Xs	20,0°C	
Xsd2	Switching difference	H	PAR	2,0°C	
as an auxiliary controller with cascade and continuous output for the models: 4, 5, 6, 7, 17, 18					
Xp2	Control action Xp2 ▲▼	S	PAR	▼	
rXSc▲	Upper setpoint limit	H	PAR	28,0°C	
rXSc▼	Lower setpoint limit	H	PAR	18,0°C	
Xp2	Proportional band	H	PAR	10,0°C	
Tn2	Integral action time	H	PAR	0s	

Controller (continued)					
Code	Parameter	Level	Operating key	Default value	New value

as an auxiliary controller with cascade and 3-point output for the models: 31, 33					
Xp2	Control action Xp2 ▲▼	S	PAR	▼	
Tm	Running time of drive	S	Y	120s	
rXSc▲	Upper setpoint limit	H	PAR	28,0°C	
rXSc▼	Lower setpoint limit	H	PAR	18,0°C	
Xp2	Proportional band	H	PAR	10,0°C	
Tn2	Integral action time	H	PAR	0s	
Xsh	Switching range	H	PAR	2,0°C	

Positioning signals all models					
Code	Parameter	Level	Operating key	Default value	New value
Y0	Starting value Y1 + Y2	S	Y	0	

Positioning signals Y1					
LY1	Limitation ▼▲ Limitation value	S	Y	▼ 0%	

Positioning signals Y2					
LY2	Limitation ▼▲ Limitation value	S	Y	▼ 0%	

Output variable Y3 all models					
Y3	Assigned to	S	Y	Xi3	
rY3 ▲	End of range	S	Y	150,0°C	
rY3 ▼	Start of range	S	Y	-30,0°C	

Dual sequence, continuous for the models: 3, 5, 7, 9, 11					
EY1	Control action Y1 ▼▲ End of left-hd. branch Y1	S	Y	▼ 50%	
bY2	Control action Y2 ▼▲ Start of right-hd. branch Y2	S	Y	▲ 50%	

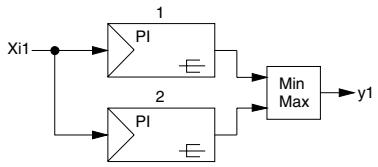
Dual sequence, continuous + switching for the models: 15, 16, 17, 18					
EY1	Control action Y1 ▼▲ End of left-hd. branch Y1	S	Y	▼ 50%	
bY2	Dir. oper. Rel. 2 ▼▲ switching point	S	Y	▲ 50%	

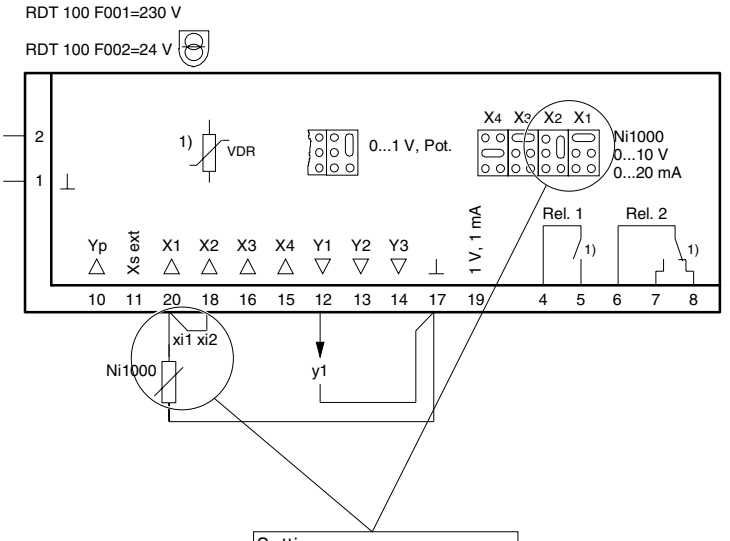
Choice of control signal for the model: 14					
YM	Choice: MIN/MAX	S	Y	▼	

Appendix

Duplication of actual value using Ni1000

e.g. model 14 with common input





Settings		
Jumper	X1	Ni1000
	X2	0...1 V
Parameter	cXi1	1
	cXi2	1
	dXi1	°C
	dXi2	°C

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N.B.: A comma between cardinal numbers denotes a decimal point
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